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SOCIAL DISEASES AND MARRIAGE

Andrews Klee
Social Prophylaxis

BY

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PREFACE.

OF all the problems of social hygiene, one of the most important—certainly the most difficult and delicate—is that of the prophylaxis of a class of diseases which, in their essential nature, are most intimately blended with the sources of human life. Venereal diseases in their mode of origin and pathological effects strike at the very root of nature's process for the perpetuation of the race. From the many points at which they touch the relations between the sexes, social morality, and the welfare of society, they are pre-eminently SOCIAL DISEASES.

It is especially in the legitimate union between the sexes that the prophylaxis of these diseases becomes a social and sanitary duty of the highest interest and importance. Their introduction into marriage involves consequences which affect the health of the contracting parties, the lives of their children, and the peace, honor, and happiness of the family.

At the present day an author in presenting a new work in any department of medicine may find himself embarrassed by the fact that the need of it is not apparent, in view of existing treatises on the same subject. No such embarrassment confronts the author of a work on "Social Diseases and Marriage." There is no comprehensive treatise in our language upon this subject, which has such important interests from both a medical and social point of view.

A portion of this field was covered by Fournier's admirable treatise on *Syphilis and Marriage*, the American edition of

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which, translated and edited by the present writer, was published in 1880. Fournier's book will always remain a classic in medical literature, exhibiting as it does a profound knowledge of the subject, united with rare skill and judgment in dealing with the many difficult and complex social problems involved in this line of study.

Since then there have been many important advances made in our knowledge of syphilis, especially of the late manifestations of hereditary syphilis, and the etiological relationship of this disease with a vast complexus of morbid conditions grouped under the general title of "parasymphilitic" affections, which have served to emphasize its significance as a social danger.

At the time Fournier's book was written the no less important relations of gonorrhœa with marriage were practically ignored by the medical profession. With the discovery of the gonococcus and its identification as the active pathogenetic agent in a large number of local and generalized infections, the field of its morbid phenomena has been greatly amplified.

Within the past two decades no coccus has so grown in significance and pathogenetic importance as the coccus of Neisser. Of especial interest in connection with the objects of this study is the important rôle of the gonococcus in determining serious pelvic disease in women. Modern science has taught us that in view of its extensive prevalence, its conservation of virulence after apparent cure, and its tendency to invade the uterus and annexial organs, with results often dangerous to life and destructive to the reproductive capacity of the woman, gonorrhœa overshadows syphilis in importance as a social peril.

Many important facts connected with the primary localization and evolutionary mode of gonococcal infection in women, and especially its reciprocal relations with the puer-

peral state, represent modern acquisitions to our knowledge not yet incorporated in text-books on diseases of women. In view of the important practical bearing of these facts upon gonococcic infection in married life, a brief chapter is devoted to "Gonorrhœa in Women."

It will be the object of this work to set forth clearly the dangers introduced by venereal diseases into marriage—dangers to the wife, dangers to the offspring, and dangers which come from their morbid irradiations into family and social life—and to indicate the most effective means to prevent these dangers or to limit and circumscribe their spread. This protective duty, which has for its object the preservation of the helpless and innocent from infection, devolves upon the physician in his capacity as sanitarian and guardian of the public health. The fulfilment of this duty realizes the highest ideals of preventive medicine. In safeguarding marriage from the dangers of venereal diseases the physician becomes the protector of the wife and mother and the preserver of future citizens to the State.

In the discharge of this responsible duty the physician will find himself confronted with numerous difficulties. The situations created by the introduction of venereal diseases in marriage are many and complicated; the problems presented are delicate, perplexing, and difficult of solution. In dealing with these situations there is required not only a thorough knowledge of these diseases in all their relations, but also a knowledge of human nature, a professional sagacity and a *savoir-faire*, which are not taught in the curriculum of our medical schools.

It is the purpose of this study to indicate the general principles which should form the basis of the physician's conduct and to formulate as definitely as possible rules for his guidance in dealing with the various situations which may present themselves in practice.

While the larger problem of the "social evil" does not properly come within the scope of this study, the prophylaxis of venereal diseases in marriage cannot well be considered without reference to the original source of these infections in that irregular commerce between the sexes known as prostitution. In the section on "Social Prophylaxis" the causes of prostitution are examined into and certain remedies suggested, special prominence being given to moral and educational influences, which promise to be the most efficient and are, at the same time, immediately available.

As regards the title chosen for this work, it may be said that the term "social evil" has been generally accepted and sanctioned by common usage, and it would seem appropriate that the diseases which are peculiarly the appanage of this evil should be classed as "social diseases."

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CHAPTER I.

MARRIAGE AND VENEREAL DISEASES.

Glenn Wood Hall
BIOLOGICAL, SOCIAL, AND MEDICAL ASPECTS.

FROM a biological point of view the function of reproduction is the most important of all functions of the body. In order to assure the perpetuation of the species, nature has implanted in all animals the sexual instinct which incites to a relation between the sexes, involving reproduction. Man is the only animal who voluntarily limits his offspring, and who is subject to diseases distinctly inimical to the integrity of his reproductive function.

Venerel diseases are distinguished from other diseases by the altogether special conditions under which they are propagated. They are most commonly communicated through that relation between the sexes ordained by nature for the continuation of the race. Through the institution of marriage by human society, this relation is legitimized by the State and sanctioned by the Church as honorable and virtuous.

These diseases are further distinguished by the fact that they primarily and specifically affect the organs of generation, often impairing or destroying the procreative capacity and thus defeating the supreme object for which marriage was instituted. Whatever may be the motives that actuate men and women in joining themselves together in the state of matrimony, the social aim of marriage is the creation of the

family—the raising of children. The family constitutes the fundamental unit of our social organization ; whatever injuriously affects this unit, reacts unfavorably upon the collective social body. As Herbert Spencer says, “The welfare of the family underlies the welfare of society.”

Another relational feature of social interest is that the incidence of venereal diseases falls most heavily upon the young, at or before the marriageable age. It thus often happens that those designed by nature to be the future fathers and mothers of the race are entirely incapacitated for this duty or rendered practically unproductive during the most fruitful period of life. If, as stated by a distinguished sociologist, “man is the most precious capital of states and societies” and “the life of each individual represents a certain value,” no more important sociological problem can engage our attention than the relations with marriage of diseases which specifically affect those physiological functions through which life itself is perpetuated.

No disease has such a murderous influence upon the offspring as syphilis; no disease has such a destructive influence upon the health and procreative function of woman as gonorrhœa. Since the welfare of the human race is largely bound up in the health and productive capacity of the wife and mother, the sanitation of the marriage relation becomes the most essential condition of social preservation.

The pernicious effects of venereal diseases introduced into marriage are not to be measured alone by the limitation of the offspring. The influence of inherited syphilis is manifest in the production of various dystrophies, malformations, and lesions of important organs; it seriously compromises the physical development, mental vigor, and vital stamina of the

descendants and constitutes a powerful factor in the degeneration of the race. The social aim of marriage is not simply the production of children who are to continue the race, but of children born in conditions of vitality and physical health; it is to produce a race well formed and vigorous, not to procreate beings infirm and stamped with physical and mental inferiority, destined to early death or to drag out a miserable existence of invalidism.

It would be foreign to the purpose of this study to discuss the sociological importance of venereal diseases in their broader relations with social economy. The economic factors involved in the loss of time and labor, the charge upon the community from invalidism and inability of self-support consequent upon these diseases, and their influence upon health and longevity are of general rather than of special interest in this connection. One economic factor of considerable importance may be briefly referred to, viz., the charge upon the community resulting from the blindness caused by gonorrhœa. It is well known that gonorrhœa often destroys the most important organs of special sense, resulting in the terrible affliction of blindness. It has been computed that from 20 to 30 per cent. of blindness in this country is caused by gonococcic infection. A large proportion of this blindness occurs as a result of purulent conjunctivitis in children infected at birth. The amount of blindness occurring in adults from syphilis caused by atrophy of the optic nerve is by no means a negligible quantity. We read in *Revue générale de pathologie interne*, July 5, 1902, "among 80 syphilitic men there are about one-fourth whose nervous or pupillary system is adulterated by syphilis or by parasymphilis." The socioeconomic importance of this one factor, entailing a cost for

the maintenance of the blind in this country of many million dollars per annum, is not to be overlooked. The number of blind persons as given in the United States census statistics for 1890 is 50,411 persons blind in both eyes, 27,983 males and 22,428 females.

Quite apart from the sociological aspects of the question, the pernicious effects of venereal diseases introduced into marriage upon the wife and future children appeals to that humanitarian instinct which prompts protection to the innocent and helpless—those who cannot help themselves.

The conditions created by the marriage relation render the wife a helpless and unresisting victim. The *vinculum matrimonii* is a chain which binds and fetters the woman completely, making her the passive recipient of the germs of any sexual disease her husband may harbor. On her wedding night she may, and often does, receive unsuspectingly the poison of a disease which may seriously affect her health and kill her children, or, by extinguishing her capacity of conception, may sweep away all the most cherished hopes and aspirations of married life. She is an "innocent" in every sense of the word—she is incapable of foreseeing, powerless to prevent this injury. She often pays with her life for her blind confidence in the man who ignorantly or carelessly passes over to her a disease he has received from a prostitute.

Such misfortunes do not befall alone the vicious and abandoned women who indulge in licentiousness and irregular living. The victims are for the most part young and virtuous women, the idolized daughters, the very flower of woman-kind. They are the women endowed by nature with all those physical attributes of health and vigor which fit them to become the mothers of the race.

Venereal diseases respect no social position and recoil before no virtue; they ramify through every class and rank of society. Like *pallida mors*, they approach with equal step the habitations of the poor and the palaces of the rich. They constitute the connecting link which unites the virtuous wife and the debased harlot in the kinship of a common disease.

Who are responsible for the introduction of venereal diseases into marriage and the consequent wreckage of the lives of innocent wives and children? Not, as a rule, the practised libertine or the confirmed debauchee, but, for the most part, men who have presented a fair exterior of regular and correct living—often the men of good business and social position—not infrequently what are considered the “good catches” of society—the men who, indulging in what they regard as the harmless dissipation of “sowing their wild oats,” have entrapped the gonococci or the germs of syphilis. These men, believing themselves cured, it may be, sometimes even with the sanction of the physician, marry innocent women and implant in them the seeds of disease destined to bear such fearful fruit.

Unfortunately, in many cases, it is the unfaithful husband and father who receives the poison from a prostitute in an extraconjugal adventure, carries it home and distributes it to his family.

What are the results? If the germs of syphilis are conveyed to the wife, there is to be feared, in addition to the individual risks she is compelled to suffer, the destructive and blighting effect of the disease upon her offspring. Syphilis is a poison by whose foul infection the normal processes of nutrition are so changed and vitiated that the product of conception may be aborted at an early period, or brought into the world before

its time a macerated shape—"all stunted and black as ink." Instead of the rosy, healthy, well-formed child, there may survive a puny, frail being, feeble in body and mind, an object of disgust and horror, doomed, if not to early death, to bear through life the stigmata of degeneration and disease.

In the case of gonococcic infection, the individual risks the wife is made to incur are much more serious than those following syphilis. The infection may invade the cavity of the uterus and ascend to the annexial organs, causing salpingitis, ovaritis, peritonitis, etc., destroying her conceptional capacity and rendering her irrevocably sterile, to say nothing of the resulting dangers to life and the frequent necessity of surgical operations to remove her tubes and ovaries.

It is by no means intended to assert that every man who enters into marriage with an uncured gonorrhœa or a still active syphilis will infallibly infect his wife, with the consequences above depicted. Observation shows that men have married with a syphilis in full activity of secondary manifestation and never infected their wives nor transmitted the disease to their offspring. Likewise a man with an uncured gonorrhœa may marry and his wife escape contamination. But these negative facts of contagion are exceptional and cannot consistently enter into an appreciation of the dangers introduced by venereal diseases into marriage. In estimating the degree and imminence of these dangers we must take facts of common and habitual occurrence rather than those which are exceptional and occasional to serve as the basis of our prognostication. Venereal disease in being transplanted to the marriage bed is not robbed of its most distinctive character—contagiousness; on the contrary, it finds there the conditions most favorable for infection. All experience shows

that when the husband is diseased, the healthy partner rarely escapes contamination. To quote the saying of a witty Frenchman, "Syphilis, like the daily bread, is divided between husband and wife."

FREQUENCY OF MARITAL CONTAMINATION.

The significance of venereal diseases as a social peril through their introduction into married life is magnified by the frequency of conjugal contamination and their fatality upon the offspring. This frequency does not admit of mathematical formulation; there are no data of a statistical character which are available as a basis of appreciation. The "Report of the Committee of Seven on the Prophylaxis of Venereal Diseases in New York City" would indicate that nearly 30 per cent. of all venereal infections occurring in women in private practice in that city are communicated by their husbands.

The same may be said of venereal morbidity, in general. Its prevalence escapes recognition and must always remain an unknown and unknowable quantity. This is due largely to the "shameful" character of the disease in popular estimation and its difficult and baffling character as a sanitary problem. Venereal diseases are entirely ignored by our sanitary bureaus in the registration of contagious diseases.

We do know, however, that gonorrhœa is the most widespread and universal of all diseases in the adult male population, embracing 75 per cent. or more. The prevalence of syphilis, though not nearly so universal, is variously estimated at from 5 to 18 per cent. Venereal morbidity is higher in large centres of population than in rural communities,

although this preponderance is not so marked to-day as formerly, since the modern facilities of travel have tended to bring all communities into closer and more intimate relationship.

It is worthy of note that in certain rural communities in Russia 75 to 80 per cent. of the syphilis is due to infection in married life or to extragenital inoculation.

While we are incapable of measuring the extent of gonorrhœal infection in married life, all who have studied the subject agree that the reality is much larger than is commonly suspected. One method of computation would be that based upon circumstantial evidence. This evidence might be presented as follows: A large proportion of men who marry have or have had gonorrhœa. This infection occurs in the great majority of cases from the eighteenth to the twenty-third year, that is, before or about the marriageable age. A considerable proportion of these men are not sufficiently treated or definitely cured upon entering marriage. The infection of the wife is most probable under such conditions. Noeggerath stated that of every thousand men married in New York eight hundred have or have had gonorrhœa, from which the great majority of the wives have been infected.

As regards the extent to which syphilis prevails in married life, Fournier's statistics, embracing only those cases in which the origin of the infection could be definitely traced, show that 20 per cent. of all women suffering from syphilis have been conjugally contaminated. This would seem to be rather under than above the average, although if we consider the number of public women in Paris or any large city who have syphilis this ratio would give a no inconsiderable number of marital infections. My own observations at the New York

Hospital extending over a period of several years would indicate that fully 70 per cent. of all women who come there for treatment were respectable married women who had been infected by their husbands.

FATALITY OF THE OFFSPRING.

The mortality of the offspring from marital infections has a special interest in connection with the influence of venereal diseases as a factor of depopulation. It is claimed that syphilis is responsible for 42 per cent. of abortions and miscarriages, the remaining 58 per cent. embracing all causes of whatever character, artificial or otherwise.

In a general way it may be said that syphilis poisons the fountains of life, it destroys the product of conception or blights its normal growth and development, either by its devitalizing action upon the primordial or germinal cells or by its influence upon the processes of nutrition.

Gonorrhœa is more radical and effective in its action; it renders the procreative process null and void by mechanical occlusion of the oviducts or by dislocating their normal relations, and by thus blocking up the channels of communication between the ovum and its fecundating element, the spermatozoa, it prevents germinative contact. In other cases the culture field of the ovum is rendered sterile and unproductive by the inflammatory condition and vitiated secretions of the endometrium.

In most cases the mechanism of its production must be sought for in the anatomical changes caused in the oviducts. When these changes take place gonorrhœa absolutely prevents what syphilis maims or destroys. The influence of

gonorrhœa is more manifest in the production of secondary sterility. A gonorrhœal woman readily conceives as a rule, unless her tubes are occluded or diverted.

The influence of syphilis upon the offspring is expressed in one word, *polymortality*. In this country, unfortunately, we have no carefully kept statistics embracing a large number of cases which bear directly upon this subject and which mathematically express the mortality rate of hereditary syphilis. Almost every physician who has had charge of venereal clinics and who investigates the past history of syphilitic mothers knows that nothing is so murderous to the offspring as syphilis. So generally recognized is this fact that the history of a series of miscarriages always excites a suspicion of syphilis and is accepted as a diagnostic sign even when there are no active manifestations of the diathesis to justify this diagnosis. Personally, I have had numerous cases in which there has been a history of several, and in one case recently under observation, twelve abortions or premature births.

The statistics of European observers, which have been collected from both private and hospital practice, show in a most positive manner the noxious influence of syphilis upon the offspring.

An analysis of these statistics taken from all quarters and irrespective of the social conditions of the parents, show that when both parents are infected the mortality is 68 per 100.

In private practice the mortality is 60 to 61 per 100.

In public hospitals and more particularly those frequented by prostitutes, the mortality reaches from 84 to 86 per 100.

It is well known that the mortality of hereditary syphilis is influenced by social conditions, by the age of the diathesis,

and by the circumstance whether one or both parents are infected. In the first year of married life the mortality reaches its maximum. Fournier's personal statistics show that 90 women infected by their husbands became pregnant in the first year of married life, which he terms *l'année terrible* from the point of view of heredity; 50 of these pregnancies terminated by abortion or the expulsion of dead-born infants, 38 in the birth of children which soon died, 2 in the birth of children who survived.

These cases he observed not in the hospitals—that is, in inferior social surroundings or under conditions of poor hygiene, of poor food, misery or debauch, etc., constituting an undeniable predisposition to abortion—but in private practice, in middle class or aristocratic families, in young wives, well formed and in good condition for the most part, enjoying all the advantages of fortune and favorable hygiene.

Fournier gives a further series of statistics, all taken from the most authentic sources, where syphilis has practically extinguished in germ the posterity of certain families. One table gives, out of 216 births, 183 deaths; another, out of 157 births, 157 deaths, or a mortality of 100 per cent.

While gonorrhœa is insusceptible of hereditary transmission, its influence as a depopulating factor is scarcely less pronounced than that of syphilis from its inhibitory influence upon procreation. Neisser contends that gonorrhœa is a more potent factor in the depopulation of countries even than syphilis. He regards gonorrhœal infection responsible for more than 45 per cent. of sterile marriages. When the vast number of childless couples in this country is considered, we can appreciate the agency of this one factor alone as a cause of depopulation.

A percentage variously estimated at from 40 to 80 per cent. of endometritis, mesometritis, and perimetritis is of gonorrhœal origin and a cause of sterility in women. Noeggerath found in 81 gonorrhœal women 49 entirely sterile. In 80 sterile marriages, Kehrer found 45 caused by inflammatory and other changes—all of gonorrhœal origin. These figures relate to absolute sterility; as a matter of fact, we find that while gonorrhœa is often the cause of primary sterility, its more pronounced and serious effect is in the production of secondary sterility.

SOCIAL MISERY. In addition to the physical evils which flow from the introduction of venereal diseases into marriage, brief reference may be made to the social misery and unhappiness thus engendered. Disunions of households, separation and divorces, are among the frequent deplorable consequences, especially when, as it often happens, the woman learns the nature of her trouble. While she may not appreciate its pathological significance, she suffers most keenly from the knowledge that her husband has soiled her with an impure disease. This revelation naturally excites sentiments of repulsion, disgust, or resentment toward the man who has put upon her this indignity, who has contaminated her with a disease which she regards as dishonor's crown of dishonor, "the disease of the women of the streets."

The number of separations and divorces on account of marital infection from venereal disease is much larger than is commonly supposed. The cause of action in the application for divorce usually appears under some less incriminating name, as cruelty, non-support, or other pretext, while the true cause is sedulously concealed. It is "a shame that cannot be named for shame."

Another fruitful source of marital unhappiness is due to the sterilizing influence of venereal disease upon the procreative capacity. If, as claimed by a high authority, "premeditated childlessness is a crime against society," what shall be said of enforced childlessness, of sterility which is not of choice but of compulsion, of the sad fate of women balked of their desire to have children through disease communicated by their husbands?

It is only in the confessional of the consulting-room that one learns of the intense, insistent craving on the part of many women for children and of the wretchedness and disappointment they suffer in being condemned to pass their existence in a childless wedlock. The instinct of maternity is implanted by nature in every normally constituted woman, and she realizes that in missing maternity she has missed her highest destiny in being created woman.

When it comes to the procreation of syphilitic children, even the strong instinct of maternity may be denaturalized or extinguished, and sterility seem a blessing rather than a misfortune.

Fournier relates the following example: "One of my patients who had already had three miscarriages, of the cause of which she remained ignorant, brought into the world a syphilitic child which soon died, but whose disease was a revelation for her. 'Never,' she said to me one day in her chagrin, 'will I pardon my husband for the four children I have lost through his fault.' Some time later, when she had certain specific accidents, I endeavored to have her take a treatment which was repugnant to her, insisting upon the utility of this treatment for the children she still might have. She responded with the greatest indignation: "What affront

you put upon me, Doctor! How can you believe that I am destined to again have children of a man who has killed four? This man is, and will be, nothing to me. Do me the honor, if you please, to consider me a widow." That was ten years ago, and she has kept her word."

It not infrequently happens that, from a religious prejudice against divorce, the desire to save appearances before the world, or the shrinking from notoriety, the husband and wife live divided lives while continuing to dwell under the same roof.

In most cases matters arrange themselves; the wife, with a charity born of a belief in the universality of masculine unchastity, forgives her husband while accepting her fate as the common lot of women.

It is not to be assumed that husbands have no share in this marital misery. On the contrary, they may be overcome with remorse upon seeing the sins of their youth visited upon their innocent wives and children. Even when they have not communicated their disease, they may live in constant apprehension lest they should do so; an awakened conscience is a terrible foe to happiness.

Men who have married long after the stage in which syphilis is considered contagious and transmissible may be tortured with the haunting fear that their children may show some taint of their old disease. The author has known an old syphilitic to pass the months of his wife's pregnancy in a perfect agony of apprehension for fear that the child might be syphilitic. Barthelemy narrates the following incident: "'It has been the torment of my whole life,' recently said to me an old man of sixty-eight, 'not on account of my personal health, but from the anguish and the continual alarms

which the slightest maladies of my wife and children caused me.'"

It is no exaggeration to state that every year in this country thousands of men carry to the marriage bed the germs of disease destined to wreck the health and lives of their wives and children.

"Oh! what men do, what men dare do, what men daily do, not knowing what they do." It is the last clause of this proposition which explains this hecatomb of victims, and at the same time suggests the saving hope of the situation.

It is not because men are so lacking in conscience or sensibility that they perpetrate these crimes against the women they have vowed to love, cherish, and protect; it is largely from ignorance, from false and erroneous ideas of the dangerous nature and far-reaching consequences of their disease—and for which the medical profession is in some degree responsible. The views of the laity upon medical matters are often but the reflected opinions of the medical profession, imperfect, distorted, or exaggerated, it may be, but having a substratum of medical authority.

The time has not long passed when the existence of a gleet discharge was not thought a contraindication of marriage. Many physicians were accustomed to recommend what was termed "the sexual hygiene of married life" as the best cure for these intermittent discharges, not dreaming that they indicated the existence of latent gonococci ready to break forth in explosive violence when transplanted to a new soil and the conditions favorable for their germination were realized.

ATTITUDE OF SOCIETY.

Society in instituting marriage with the view of regulating the sexual relations between men and women has thrown around it no protection against disease communicated through the relations thus established.

The State, indeed, takes cognizance of the property interests of the wife—connubial rights and the material interests of the children; it makes certain conditions as to the age of the contracting parties, parental approval, the securing of a license, etc., but requires no certificate of health; it imposes no restrictions upon that large individual liberty which permits a husband to poison his family with venereal disease.

On the contrary, Society by its peculiar and false attitude toward these diseases, its ostrich policy of shutting its eyes to their danger, and its edict of silence imposed upon the teachers of youth and public educators as to the existence, even, of these diseases, fosters that ignorance which is the chief cause of the evils we are considering.

If young men could be educated in matters relating to sexual hygiene, the significance and dangers of venereal diseases, their modes of contagion, and the serious consequences they may entail in married life, such knowledge would be of inestimable service in protecting the sanctuary of marriage from their invasion. But public sentiment, based upon traditional usage, persists in regarding this class of diseases as *shameful* and of immoral origin, and sets its seal of disapproval upon the dissemination of knowledge respecting their dangers. This culpable policy is like a boomerang, which returns to smite society through the very institution it has created for its own perpetuation.

The State enjoins fidelity to the marriage vow, and the law may intervene by dissolving a union which has proven so disastrous, but only at the expense of publicity. If the true cause of action is stated it exposes the woman to public branding with a shameful disease—if there is a child, to carry through life, perhaps, the public certificate as well as the personal degradation of a vile disease. But it is a poor recompense the law offers; the evil once done is irremediable.

No wonder, then, that the woman shrinks from having herself proclaimed as the bearer of a degrading disease. This infamy shocks her self-respect, her modesty, and the purest and strongest instincts of womanhood.

CHAPTER II.

SANITARY SAFEGUARDS OF MARRIAGE.

QUALIFICATIONS OF THE PHYSICIAN.

UPON the medical profession devolves the responsible duty of safeguarding society from the dangers which threaten its interests through the introduction of venereal diseases into marriage. The genius of modern medical science is essentially in the direction of the prevention of disease. The modern physician is not simply a healer, but also a sanitarian. This latter office is higher in importance, as the interests of the many are superior to those of the individual. This conception of the physician's office is enlarged and elevated from the consideration that this protective duty embraces in its object not only the wife and unborn children, but through them society itself.

In the sanitation of the marriage relation the cure of the individual and the prevention of disease go hand in hand. The sterilization of the source of contagion by treatment constitutes one of the most effective means of preserving others from contagion. What has been termed *prophylaxis by treatment* is the surest and best method of preventing infection in married life.

It would simplify the responsible duty of the physician if every venereal patient would submit himself to the sterilizing effect of treatment and accept the tests imposed by medical

science as the necessary, indispensable condition of his marriage.

In practice, however, the problems presented are much more complex and difficult of solution. The patient often comes to the physician for his professional sanction to a marriage which may be already arranged for, in which the element of time necessary for a cure has not entered into his calculations. Often there has been a premature marriage of a venereal patient still uncured and therefore contagious, or the husband has contracted the disease *post nuptias*. In the presence of an infectious disease the cardinal consideration is to prevent others being infected. The physician's duty is, then, to protect the interests of the wife and offspring by limiting or circumscribing as far as possible the further spread of the disease.

The prevention of the introduction of venereal disease into marriage imposes a heavy responsibility upon the physician, in view of the number and importance of the interests involved. For the intelligent discharge of this protective duty certain qualifications are essential.

In the first place the physician should have a thorough knowledge of these diseases in all their relations, their pathological significance, the degree, duration, and modes of their contagion, their diagnosis and prognostic indications.

In the immense majority of cases venereal disease does not constitute a permanent barrier to marriage. In general terms it may be said that the duration of the period of prohibition is measured by the period during which the disease is contagious and transmissible. Exception must be made of those cases in which the man is rendered permanently unfit for marriage by reason of risks to his personal health through his disease.

The verdict of the physician in deciding whether a venereal patient may or may not marry, and when such marriage is safe, has most important consequences, as it involves the health and existence of a family. In pronouncing such a verdict the physician should be fully impressed with a sense of personal responsibility. He should avoid a dangerous optimism on the one hand and an exaggerated pessimism on the other; while he should not give his professional permit until all danger of infection is passed, he has no right to forbid a man to marry when it is perfectly safe for him to do so.

In appreciating the elements which serve as the basis of his decision the most essential condition is that the patient should no longer be the bearer of the contagion of the disease.

In the case of gonorrhœa the risks of contagion may be determined with comparative certainty by a bacteriological examination of the urethral secretions. Since the gonococcus is the sole infectious agent, if gonococci are present, the patient should not marry; if absent, he may.

In the case of syphilis, we have no such scientifically accurate means of determining whether the infectious principle is present or absent, but the facts of observation and clinical experience show that after a period more or less definite, the contagious activity as well as the hereditary influence of the disease are rarely manifest. Unfortunately, the duration of this period does not admit of mathematical formulation. On this account the period of probation which it is thought necessary to impose upon a syphilitic before he can be adjudged safe for marriage is by no means a fixed quantity; it varies according to the type and course of the disease, the character and persistence of the manifestations; specific treatment also

exerts a qualifying influence. While observation shows that in the large majority of cases the contagious activity of syphilis and its susceptibility to hereditary transmission ceases after the third or fourth year, the arbitrary designation of a period of four years after the chancre as perfectly safe for a syphilitic man to marry, irrespective of the type of the disease or the character of the treatment, is unwarranted by science and condemned by clinical experience. Each case must be studied upon its individual merits.

Then, again, after there is no longer any risk of infecting the wife or of procreating syphilitic children, there may be contraindications to marriage based upon the personal health of the individual. There are cases, unfortunately common, where the determination of the disease toward the nervous system or other important organs so seriously compromises the future of the patient as to permanently debar him from marriage. An intelligent discrimination is, therefore, necessary in deciding what are safe risks for marriage and what are to be rejected altogether.

It is chiefly in the sphere of the nervous system that we must search for those indications which point to a grave and menacing character of the syphilitic diathesis, and the physician should be familiar with the prognostic significance of certain symptoms which threaten the invasion of the nervous system. It is only by a careful study of the disease as influenced by peculiarities of individual constitution and an intelligent interpretation of phenomena, often by a calculation of probabilities, that the physician's permission to marry carries with it a reasonable guarantee of immunity from danger.

The fact is not to be forgotten that gonorrhœa also carries in

its train serious sequelæ which may affect a man's fitness for marriage. Not to speak of stricture, permanent ankyloses, visual defects from ophthalmia, and certain systemic complications, gonorrhœa is the most prolific cause of absolute sterility in the male. Marriage is an association between man and woman in which each partner is supposed to bring a share of health and productive energy sufficient to fulfil the social aim of marriage, the raising of children. Now, it is a question whether it is honorable for a man who is hopelessly sterile to enter into such a partnership without at least letting the woman know that she can never have any children by him.

In practice it will be found that in safeguarding marriage from the introduction of venereal disease, the office of the physician is not limited to the discharge of a strictly sanitary duty. Owing to the peculiar nature of these diseases and their intimate relations with the interests of the family and society, there will be presented for the physician's consideration many difficult and delicate social problems involving questions quite apart from health and disease.

In addition to his professional qualifications, the physician should have a thorough knowledge of human nature, and should bring to bear to the solution of these problems a large share of discretion, tact, and good sense. In deciding upon the fitness of a venereal patient for marriage, the conscientious physician should look only at the pathological side and base his conclusions upon pathological grounds alone, without reference to other considerations; but it is precisely these other considerations which are most important from the patient's point of view. He is disposed to disregard the medical aspects of the question and consider his own personal

interests as overshadowing in importance the pathological coincidence of a disqualifying disease.

The only weapons the physician can employ in his efforts to shield the innocent from infection are enlightenment and persuasion. His duty is to instruct the patient fully as to the dangers of his disease, its modes of communication, and make him clearly comprehend the risks of almost certain infection to his wife, with all the deplorable consequences which would follow a premature marriage, and endeavor to persuade him to defer his projects of marriage until it can be entered into honorably and safely.

The physician is not armed with plenary powers to enforce the conditions his judgment may impose. He can speak with the authority of superior knowledge; his opinion may be received with the respect which is due his office as teacher and adviser in matters relating to hygiene, but he cannot command obedience. In the majority of cases it is wiser to appeal to the intelligence and good-will of the patient rather than to denounce his project as base and criminal.

The physician's rôle is not that of a father confessor or the stern judge of another man's morals. When a venereal patient comes to him for advice as to his projects of marriage, he is not to look upon him as a worn-out libertine who, having exhausted the possibilities of sensual pleasure in licentious living, now seeks to pollute the holy temple of matrimony with a foul disease; nor is the physician's rôle that of the angel with flaming sword appointed to guard the gates. In most cases the young man who comes for advice as to the propriety of his marriage is more unfortunate than depraved, more ignorant than dissolute. He is often the victim of that

false system of education which keeps him ignorant of all matters relating to sexual hygiene—a victim of that social system which surrounds him with allurements and excitements and which tempts him by example and by the laxity of public sentiment into a pathway beset with pitfalls of which he is not forewarned.

His disease may not be the “merited punishment” for a long course of licentious living; very often it is the result, not “of the sin that practice burns into the blood, but of the first false step that brings remorse.” Such persons are entitled to our sympathy and consideration.

Fortunately for the credit of human nature there are few men so reckless and indifferent, so absolutely destitute of moral principle, as to knowingly and wilfully expose the women they marry to the risks of almost certain infection. The chief difficulty encountered arises from the fact that men are ignorant of the dangerous consequences of venereal diseases; they enter into an engagement of marriage imagining themselves cured, and oftentimes, only after all arrangements for the marriage are completed, they come to the physician simply as a salve to conscience or to make assurance doubly sure. When they learn that they are still suffering from chronic accidents which may be both contagious and transmissible they find it difficult to retreat. These are the situations most difficult to handle. The most honest man naturally desires to fulfil his engagement; in addition to his pledged word, the fruition of his hopes, the happiness of his life seems to him bound up in this projected marriage. While the physician is inflexible in his opposition to a premature marriage, he should not be surprised if the patient does not show a ready acquiescence in conditions which impose a

delay that may be equivalent to a permanent rupture of the engagement.

There is often on the part of such a patient an ill-concealed skepticism or downright disbelief in the statement that the disease of which he is hardly conscious, which may not affect his general health, and which, objectively may have entirely disappeared, still conserves all its potentiality of infection, and may be fraught with consequences so terrible when communicated to his wife. It is in direct opposition to those false and erroneous ideas with which he has been indoctrinated, to the traditions which are circulated by his little coterie of gay associates. It is the physician's duty to enlighten him and persuade him to pursue the only honorable and safe course by postponing his marriage.

According to the author's experience the chief obstacle the physician will encounter in this task is timidity, cowardice on the part of the patient, a lack of moral courage to face the situation, a shrinking from an explanation which cannot always prove satisfactory without the impossible alternative of avowing the shameful cause. The nearer the date of the marriage the more difficult its postponement. The most intractable cases to deal with are those in which all arrangements for the marriage have been completed.

In the management of these and other situations which present themselves in practice, the physician will find his task bristles with difficulties. The motives which influence human conduct vary in different individuals. A consideration that might powerfully appeal to one individual would be lost upon another. In dealing with these situations the methods employed by the physician must be adapted to the character, the temperament, and the impressionability of the individual.

In practice it will be found that the number of cases in which the physician is consulted by the venereal patient as to his fitness for marriage is relatively small in comparison with the cases in which his advice is sought after marriage. Although a large proportion of marriageable men have or have had venereal disease, in only a small percentage of all marriages is the physician's sanction asked for or obtained. This is partly due to ignorance of the nature and prolonged contagiousness of these diseases and of the serious dangers they may entail in married life, and partly to the fact that the question of health rarely receives proper consideration in contracting marriage. In the class of patients met with in private practice—those of the middle and upper classes—social and financial position, convenience, material advantages, etc., are often the influential motives to marriage, while considerations of health or physical fitness are practically ignored. Among the lower classes it rarely happens that the physician is consulted as to the propriety or safety of marriage, so that as a matter of fact the opportunities for the physician's prophylactic work are comparatively restricted; in the majority of cases his aid is invoked only after the evil has been accomplished.

The line of conduct to be pursued by the physician in the management of the complicated, difficult, and delicate situations created by the introduction of venereal disease in marriage will be elsewhere considered.

In concluding this section it cannot be too strongly stated that the besetting sin of the physician in deciding upon the admissibility of a venereal patient to marriage is indulgence—a disposition to be unduly complaisant with the personal inclinations and wishes of the interested party. Physicians,

especially those of limited experience, are peculiarly prone to a dangerous optimism in this regard. They may have known, perhaps, of men who have married with an uncured gonorrhœa or a still active syphilis and whose wives have escaped infection. But there is no more dangerous error than a generalization based upon negative facts of contagion. It is far better that the period of probation should be pushed to the extreme limit than that the health and life of an innocent family should be sacrificed. The interests involved are too sacred and important to be endangered by the professional sanction of a premature marriage. The larger the physician's experience in this class of cases the more he is inclined to a redoubling of caution and prudence. Fournier speaking upon this point says "we sin by an indulgence which is medically an error and which socially becomes a danger."

CHAPTER III.

PROFESSIONAL DISCRETION. THE MEDICAL SECRET.

WHAT is termed "the medical secret," which is, after all, the patient's secret, has a most important relation with the sanitary duty of the physician in preventing the introduction of venereal diseases into marriage. In alienating the physician's liberty of action, it practically dominates the entire situation.

It is hardly necessary to impress upon the physician the obligation of secrecy in relation to any information of a patient's condition confided to him in the exercise of his profession. This obligation, which was formulated in the precepts of the Hippocratic oath, has been accepted as the truest and finest expression of the physician's duty to his patients, and has been approved by the wisest and best of medical men in all ages. The observance of this code of duty is the primal professional virtue, and is universally recognized as the basis of all relations between the physician and patient.

No matter what theories or dogmas have divided medical men in opinion or created separate sects or systems of practice, the medical profession, with a remarkable unanimity, has remained faithful to this code of duty. Even the least scrupulous of medical men who fail wofully in their ethical duty to their confrères recognize the binding character of this obligation to their patients. Physicians may violate every

principle of right and decency toward a fellow-practitioner—may disparage and belittle his reputation and injure his practice—all this may be excused or condoned on the ground of professional rivalry, but the medical secret is regarded as sacred and inviolable.

In relation to venereal diseases, from their essentially private nature and, especially, their "shameful character" in popular estimation, the obligation of secrecy takes on a more rigorous and peremptory application. They are the diseases of all others which the patient would not wish revealed, and it is evident that a knowledge of their existence would not be confided to the discretion of the physician if there was any risk of it being divulged. It is only by virtue of this tacit though well-understood contract that the confidential relations between physician and patient are established and maintained.

To the force of traditional custom the law has also added its weight of authority by making the violation of the professional secret a penal offence. The French Penal Code (Art. 378) decrees that "physicians, surgeons, and other officers of health, also pharmacists, midwives, and all other persons, the depositaries, by their state or profession, of secrets which have been confided to them, who outside of cases where the law obliges them to be denunciators shall reveal these secrets, shall be punished with an imprisonment of from one to six months and a fine of from one to five hundred francs." In this country the law imposes professional secrecy by a prohibitory statute against disclosing any information acquired on attending a patient in a professional capacity, but this mandate is not enforced by attaching a penal responsibility to its violation.

Article 834 of the Code of Civil Procedure of New York reads as follows: "A person duly authorized to practice physic or surgery shall not be allowed to disclose any information acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity."

A similar rule, varying only in phraseology, exists in most other States and Territories of this country.

But the law evidently considers the common interests of the social order superior to the interests of the individual, since it has made it obligatory upon physicians to report all cases of contagious diseases which are regarded as dangerous to the public health. This compulsory notification is justified, since it is the basis of all prophylactic measures for the protection of the public against these diseases. Doubtless the intent of the notification laws is to include within their scope all diseases which are recognized as contagious and dangerous to the public health. Venereal diseases fulfil both of these conditions, but they are exempted from declaration chiefly because of their difficult and baffling character as a sanitary problem. The French law even compels the violation of the medical secret in decreeing that "the physician who knowingly leaves a nurse in ignorance of the dangers to which she exposes herself in nursing an infant suffering from congenital syphilis may be declared responsible for the prejudice caused by his reticence." It is obvious, however, that the physician cannot disclose the nature of the disease with which the child is affected without revealing the secret that one or both parents are syphilitic.

In Norway and Denmark the declaration of venereal diseases is made obligatory by the law, and, while the informa-

tion is kept secret by the sanitary authorities, it has proved to be one of the best measures for the prophylaxis of venereal diseases, as it has enabled the authorities to locate dangerous sources of contagion and subject them to surveillance and treatment. Doubtless it is only a question of time when the registration of venereal diseases by our sanitary bureaus will be generally adopted.

In the ordinary treatment of venereal diseases the physician finds it easy enough to adjust his line of conduct in strict accordance with his code of professional duty, as in such cases the individual interests of the patient alone are involved; but when a venereal patient consults a physician in regard to his marriage the situation is changed—the interests of others may be jeopardized. His protective duty extends to the wife and future children, and through them to society at large.

It often happens that the special obligation imposed upon the physician to protect the interests of his patient are opposed to and irreconcilable with this larger social duty to preserve others from infection. There thus arise many situations in which the question of professional discretion obtrudes itself, and therein the physician perceives a divided duty.

In many cases when the patient applies to the physician for advice in regard to the propriety or safety of his marriage he does so with the honest intention of accepting and abiding by the physician's decision. The chief rôle of the physician is to explain the significance of the disease, the dangers it may entail in married life, the necessity of treatment, and the period necessary to wait before his marriage can be sanctioned as safe. However onerous these conditions may be, and however prolonged the premarital probation, the patient yields a more or less ready assent.

There is another class of cases, unfortunately not rare, in which the man, fully instructed as to the dangers he would carry with him into married life, will not forego a contemplated marriage despite all representations the physician may make as to the danger of infecting his wife. He will plead an engagement from which he cannot honorably retreat, arrangements completed for the marriage, pecuniary or other selfish interests that would have to be sacrificed—pretexts as numerous and varied as are the motives that influence men to matrimony. He resolutely refuses to forego the marriage. To the physician's advice to wait until he is cured, when he can enter the marriage safely and honorably, he will perhaps urge that delay would mean the defeat of his matrimonial projects. The physician's appeal to his honor, the denunciation of his action as base and criminal, do not shake his determination. It is precisely in situations such as these, in dealing with this type of conscienceless criminal—for it is a moral if not a legal crime for a man to risk giving syphilis to a woman who accepts him as her husband—that the professional secret introduces a complicating element which renders the physician's line of conduct extremely difficult in view of the opposing interests involved.

On the one hand there is the duty to protect the confidence of the patient who has consulted him, relying upon the traditional assurance that his confidence is sacred and inviolable; on the other an innocent woman, it may be the cherished idol of her parents, who is to be the victim of a most odious injury, the supreme insult that a virtuous woman can receive, to say nothing of the injury to her health and the destruction of her offspring.

The Hippocratic oath enjoins, "My tongue shall be silent

as to the secrets which are confided to me, and I will not use my profession to corrupt manners or *aid crime*."

Here is a crime contemplated but not yet consummated, without malice, it is true, but none the less wilful, and from the basest and most sordid motives. The prospective victim is most often a pure young woman, confiding in the love and honor of the man who is about to do her this unspeakable wrong.

By the accident of his professional relation to this man the physician happens to be the only person who can prevent the consummation of this crime, as he is the only confidant. Does not his silence and inaction make of him an accomplice, a *particeps criminis*? The remorseful self-accusation of Paul was that "I was also standing by and consenting unto his death and held the raiment of them that slew him." Is not this paralleled by the attitude of the physician who stands by and guards the dissolute secret of the assassin? A single word to the family physician or natural protector of this woman would save her from this terrible fate, yet the physician is fettered hand and foot by his cast-iron code, his tongue is silenced, he cannot lift a finger or utter a word to prevent this catastrophe. His code shields the criminal more effectively than the most solemn personal pledge. The very name and nature of the disease give an added significance to the physician's obligation not to reveal it.

If it were a taint of insanity, of cancer, of leprosy even, it might be hinted at or indirectly revealed; but syphilis, never!

Another aspect of the situation may be considered which has been literally duplicated in practice. The intended victim is also a patient of the physician. He has brought her into the world, her family have been lifelong friends and patients

—but this does not alter the situation. The professional code marks out and strictly limits his line of conduct. Ethically he has no more right to intervene than if she were a complete stranger. He cannot apply the knowledge he has gained in his capacity as a physician to protect one who may be as dear to him as a member of his own family.

There are no circumstances in the entire range of a professional man's experience so painful as to recognize himself powerless to prevent the morally culpable union of a syphilitic man and an innocent woman. There is no situation in which the arbitrary restrictions of a code of conduct based upon professional secrecy seem so opposed to the voice of conscience and the dictates of humanity as the one under consideration. To protect the man, he feels to be odious, immoral, and culpable; to protect the woman would be manly, humane, and just. The inspiration of his conscience cries out against the former duty; every noble instinct of his nature would be enlisted in the latter duty.

What has been termed the "eternal problem" of the professional secret has long engaged the thoughtful attention of medical men. Like all problems connected with the prophylaxis of venereal diseases, it is exceedingly complex and baffling. It may be said that no solution of these problems has ever been proposed, no plan of action for the regulation or control of these diseases has ever been formulated which does not come in conflict with individual liberty, legal rights, or moral principles. There is always an irreconcilable conflict between the sanitary and other interests involved.

Now, it will be admitted that it is distinctly a sanitary duty to guard against the introduction of syphilis in marriage, because it compromises the health of the wife, the exist-

ence of the children she might bring into the world, and through them the interests of society. But it would appear that the higher duty of the sanitarian to preserve others from infection falls below his duty as physician to protect a wretch in infecting them. Not only the interests of the many are sacrificed to the interests of the individual, but the innocent are made to suffer in order to advantage the guilty. The law which backs up and supports the sanitarian in his efforts to control and limit the spread of contagious diseases in general here intervenes in favor of the spreader of disease. It sets its seal of silence upon the secret of the individual which cannot be broken—under penalty of the law.

It would simplify the situation if the physician could accept and act upon Dogberry's charge to the Watch in "comprehending vagrom men":

"You are to bid the man stand in the Prince's name."

"But if he will not stand?"

"Then let him go his way and thank God that you are rid of a knave."

But does not the advice of a distinguished authority have the same exquisite Dogberrian flavor? "Tell him plainly the truth, show him that he will commit a crime in marrying, and if it is seen that he will not be convinced, dismiss him brusquely, as you would dismiss an assassin."

Practically, however, it is to this inane rôle that the physician is reduced through the alienation of his liberty of action by his professional code. In this connection it will be interesting to compare the views of different writers upon this aspect of medical deontology.

Langlebert gives the following case: "The father of a young woman asks information relative to the health of a young

man (your patient) who is engaged to his daughter. 'I wish to ask under the seal of secrecy certain details as to his malady. I beg you to say whether I can or cannot accept him as a son-in-law. I hope that you will take into consideration the embarrassment of a father placed between the desire to give to his daughter the husband of her choice and the fear of the results the marriage may have if the hints that have been given me are unfortunately true.'

"In the case given above," says Langlebert, "should the physician, entrenching himself behind the Hippocratic oath and the proscriptions of the law, guard an absolute silence, or, only interrogating his conscience, should he make it the judge of the secret confided to him, to divulge it, or be silent, according to circumstances?"

Commenting upon this case Gaide says: "If a client affected with constitutional syphilis which resists all treatment does not fear to solicit the hand of a pure young woman who is the joy of her family—if the father of this young woman comes to demand of me in confidence if he can in all security give her to this man, who would soil her by his first contact and leave her as her only consolation children affected by his malady—shall we respond with a silence which may be misunderstood, and thus render ourselves accomplices of a marriage the fruits of which will be so deplorable? Never would I have the courage to obey the law under such circumstances. My conscience would speak higher than it, and without hesitation I should say, 'No, do not give your daughter to this man,' and I would not add another word."

Langlebert indicates the physician's rôle as follows: "I regret that I cannot give the information you ask. The best you can do if you intend to carry out this project of marriage

is to inform the young man of the warnings you have received or have him come with you or send me a writing by which he authorizes me without restriction to say whether he can or cannot espouse your daughter.

"The physician ought to interdict all kinds of information as to the health of a patient on the occasion of marriage; as a professional principle, an invariable rule of conduct, he should take refuge behind the proscriptions of the law.

"The alternative is cruel, it requires a certain courage in such cases for the physician to remain master of himself and faithful to his duty.

"If it be a misfortune to society it would be a much greater damage to permit the enfeeblement of the tutelary principle of the medical secret which is one of the necessities even of the social order."

In his most recent utterance upon this subject Fournier says: "My manner of procedure in the cases—by no means rare—when one comes to demand of me information relative to the marriage of one of my clients is as follows: Interrogated, I respond, always to the great astonishment of my visitor, that I have nothing to say, that I can say nothing, absolutely nothing; but I add, since I am the physician who has treated the young man in question, 'Bring him with you, and if he relieves me of the medical secret, I will respond to any questions you may address me in his presence upon the state of his health.'"

While this line of conduct permits the physician to give, without violating the medical secret, all necessary information relative to the patient's fitness for marriage, it does not touch that class of cases, infinitely more large, in which the family of the prospective bride do not suspect, much less

inquire into, the pathological antecedents of the man she is to marry. In these cases there is no suspicion of the impending danger, and the situation can only be saved by the active, unsolicited intervention of the physician.

Juhel Renoy maintained that it was not only lawful but even compulsory for any doctor who was a man of honor and courage to oppose and even denounce any criminal projects his patients might entertain in regard to marriage. He cites two instances in which he had undertaken the cause of young girls who were about to fall into a trap of this kind, and as his patients were without conscience, had refused to listen to the moral reason he adduced, he had declared that he did not feel bound to secrecy toward them any longer, and that he would either go or send to the parents of the young women and warn them. Under this threat one of these marriages was broken off, but a more direct interference was required in the other case. He sent for the girl's father by one of his confrères, and replied without hesitation to the question put to him, "No sir, do not marry your daughter to Mr. X.," with so much emphasis that the marriage was broken off.

Jullien, commenting upon his confrère's action, says: "If the result was fortunate the method employed was detestable. It was treason, perpetrated with the 'best intentions,' but still a treason, for it is all very well to say the patients were warned, but it was not until they were no longer masters of their secret, which no doubt would not have been revealed if they had known what use was going to be made of it; strict duty would have required that before receiving this confidence our confrère should have warned the parties interested that he would publish the information if he saw fit."

Jullien reports with evident approval how an old practitioner, Dr. Piogey, solved this troublesome problem:

"A young girl whom the doctor had brought into the world, of whose family he was a personal friend, and who was beautiful and charming, was about to be married. The doctor knew the intending bridegroom. He had attended him and attends him still for a terrible, incurable, contagious hereditary disease. To a man so afflicted to marry was not only a bad action but a crime—a really moral and physical murder. The doctor went to the young man. He showed him the infamy of his conduct. But he had to do with a 'struggler for life,' who replied coolly that he cared little or nothing for the girl, but she was rich and would save him from ruin, and all that he could promise was to content himself with her money only. What was to be done? The rule of the profession is strict. Even in such a case the doctor could not break it. The scoundrel knew that, and told the doctor so. 'Very good,' replied the doctor, 'but since you are unwilling to leave your prey I will snatch it from you. If you do not break off this marriage to-morrow I will strike you in the face at the opera.' The courage of an honest man overcame the coward, and the marriage was broken off." While this action on the part of the doctor was unquestionably chivalric, it is too Gallic and melodramatic to be imitated in our Western Hemisphere.

Thibierge, who proves himself in his recent work (*Syphilis et Medical Deontologie*) a staunch upholder of the absolutism of *le secret médical*, admits "that this obligation weighs heavily upon the physician who in submitting to it is rendered powerless to avert syphilitic contaminations, often multiple, in not being able to prevent the syphilitic from

marrying." The medical man feels the obligation to guard the secret troubling his conscience, and he regards himself almost as an accomplice in an action which he justly esteems criminal, since the syphilitic will not fail to contaminate the wife; in such circumstances the law appears to him odious, and seems to have been made mainly for the purpose of protecting particular interests, and among them the least respectable of all—the general interest seems to be sacrificed. The physician, in his revolt against the law, may be tempted to yield his obligations to the cry of conscience, forgetting that, in the language of a distinguished magistrate, "no one is sufficiently sure of his conscience to put it above the law." Nevertheless, Thibierge contends that while the more obvious intent of the law may seem to be for the protection of the individual, yet in reality its ultimate result is in the interest of society, since the enforcement of the obligation of the medical secret constitutes the indispensable condition as well as the most efficacious means for the public prophylaxis of syphilis. He reasons as follows:

If the medical secret ceased to be imposed and the syphilitic could not count upon the silence of the physician, he would take care not to address himself to the conscientious physician, but betake himself to the charlatan, whose silence he could purchase, or, for greater security, he would treat himself, or not be treated at all.

Others, honest but timorous, having the impression that a syphilitic man can never marry, might mistake a simple venereal accident, easily cured, for syphilis, and consequently remain *célibates*.

Others, again, suffering from a benign syphilis, held back by the fear of confiding their secret to a physician, would not

be treated at the beginning of their disease, and, seeing all manifestations disappear completely, would imagine themselves cured, and marry and infect their wives; finally, old syphilitics who had had the disease many years previously, not knowing that it was safe for them to marry, would remain single.

"The disadvantages resulting from this relaxation of the medical secret would be, both for individuals and society, much more numerous and frequent and altogether quite as grave as those which it is designed to prevent."

It will be admitted that there is much truth in this line of argument. The venereal patient, and especially the syphilitic, is a timorous creature. He is keenly alert to any circumstance that might suggest a suspicion of his disease. He scents danger of exposure where none exists. He often neglects to give his name or address to the specialist he consults. He looks askance at any prescription, fearing that it may give a clue to the nature of his disease, and he will go to an out-of-the-way pharmacy to have it filled. The slightest intimation that his secret would not be held sacred by the physician under any and all circumstances would drive him away.

Under such conditions the valuable protective service which physicians are now able to render society by enlightening venereal patients as to the dangers of their disease and by dissuading them from their projected marriage until time and treatment render such a step safe, would be sacrificed.

When we come down to the question of practical results, even assuming that the obligation of the medical secret were entirely abrogated, and that the sanitary duty of the physician in excluding venereal diseases from the marriage relation was as plain as that of the health board in excluding trachoma

and other contagious diseases from the public schools, what could be accomplished?

In the first place it is to be remembered that the number of cases in which the patient applies to the physician for professional sanction of his marriage is comparatively restricted.

In a large proportion of cases venereal diseases are introduced into marriage from extraconjugal infections contracted *post nuptias*. Here it is evident that the preventive duty of the physician could not be exercised.

In the next place, in many cases the specialist consulted often knows nothing of the parties interested, neither the name nor address of the intended victim, of her natural protector, or the family physician—all may live in a distant city. He could not utter a word of warning, even if such interference were justifiable.

Finally, few patients when enlightened as to the serious and dangerous consequences of a premature marriage, brazenly avow to the physician their intention of carrying out their criminal intent, despite his warnings. One "will see about putting it off," another "will consider the matter," another remain silent, and while the physician may be morally sure that the man is secretly but none the less resolutely determined to carry out his purpose, he cannot take any step to guard against an act on the part of the patient, the intention of which may be distinctly disavowed.

After weighing all the arguments pro and con, after studying dispassionately the practical results which would follow an innovation upon the established principles which guide professional conduct in relation to the patient's confidence, we are forced to the conclusion that the solution of this prob-

lem must be found in some other way, *in any other way* than in removing the old landmarks. We may justify ourselves in ignoring particular cases in which both conscience and humanity cry out against our silence and inaction by the consideration that in taking a broader and more general view, the larger interests of society, the greatest good of the greatest number, will be best promoted by remaining faithful to the traditions of the code. But the physician will fail in his duty if, in his endeavor to prevent the premature marriage of a venereal patient, he does not use every argument, appeal to every motive, play upon every chord of sensibility, and, if necessary, denounce the cowardice and criminality of an action which exposes the innocent to infection with all its train of physical woes.

While the obligation of the medical secret is in the general interest of the social order, and should be maintained as a fixed principle of professional conduct, it may be admitted that a situation of a peculiarly aggravating character may present itself when the patient shows himself an exceptional sort of brute by the obstinacy with which he adheres to his criminal purposes after he is assured that he will almost certainly infect his wife—in such a case the physician, knowing all the circumstances and fully appreciating the tragic significance of such a step, must be guided by his own lights and conscience. If he should consider the criminal intent of this monster as entirely without the pale of professional protection, and refuse to stifle his own feelings as a man of heart and conscience, who shall condemn him? Such a man is far more likely to prove loyal to the highest ideals of ethical duty in his relations with his patients in general than the man who views these social catastrophes with a cold-blooded indiffer-

ence, disclaiming all personal responsibility, and considers that in guarding the dissolute secret of his patient he is doing his whole professional duty.

Various expedients have been suggested which would permit the exercise of the physician's protective duty while the time-honored principles of professional conduct are still preserved intact.

M. Brouardel, whose work (*Le Secret Médical*) embodies the most elevated conception of the rôle of the physician in relation to professional confidence, thinks that in cases of this character a subterfuge is legitimate. Thus, "interrogated upon the health of one of his patients whom he knew to be syphilitic, he advised the father of the young woman whom he had asked in marriage to exact that his future son-in-law should take out a policy of insurance upon his life, the syphilis revealing itself by accidents so apparent that the young man in question would not dare undergo the medical examination preliminary to the granting of the policy."

While the acceptance of a risk by a life insurance company may be regarded in some respects as a certificate of present good health, yet it would prove delusive as a guarantee against syphilis. In cases where the disease is recent or revealed by manifestations actually present at the time of examination, it might be detected, but in an interval between the outbreaks the patient, even in the first year of his disease, may present no incriminating evidence. In this country, at least, there is no uniformity in the principle adopted by life insurance companies in taking these risks. Some depend upon the results of the medical examination made at the time of the application, and others upon the truthfulness of the answer made by the applicant. The records of life insurance

companies would be very misleading as a basis for estimating the prevalence of venereal disease in any country. As one examiner states, "this company apparently has a very virtuous set of members who have been remarkably free from venereal lesions."

The fathers of young women are censured for being largely responsible for the evils under consideration. It is claimed that it is a father's duty to satisfy himself of the health as well as the social and pecuniary condition of his future son-in-law. He may, indeed, contrary to established usage, interrogate the young man as to his freedom from venereal disease, but the latter would be hardly frank enough to reveal the existence of such a disease if he had it. To meet this difficulty it has been proposed that the candidate for marriage should be provided with a certificate from a physician which should be equivalent to a medical sanction or prohibition of his marriage. Many French authorities speak highly of this solution of the problem.

Jullien is quite enthusiastic over such a procedure, "as the father of a family would find himself relieved from any painful uncertainty if at the beginning of an engagement he received a paper couched in terms like this:

"I declare Mr. X to be free from all morbid conditions of the genital organs. After a careful local examination I have not discovered any trace of disease or contagious or transmissible malady.

"FRASCATOR.

"In the event of the patient being ill or still uncured of his disease, the terms might be so expressed as to make it

equivalent to a certificate of disease, in which case the interested party would not likely use it."

Without reference to the hostility of public sentiment in this country against the adoption of such a restrictive measure, there are certain objections of a practical nature which suggest themselves.

While it may be possible to determine the fitness of a gonorrhœic for marriage by a bacteriological examination of the urethral secretions, it is not always possible to come to an equally definite conclusion as to the aptitude of a syphilitic to transmit his malady. In many cases it is not possible to determine whether a man is syphilitic or not in the absence of existing accidents and the history of antecedent symptoms—all information relating to which the patient would doubtless withhold. Among other abuses, offices would be opened for the sale of certificates destined only to dupe those they are ostensibly designed to protect.

Another phase of quarantine protection suggested which does not involve the violation of the professional secret is the requirement by the State, as a preliminary condition to the issuing of a marriage license, of a certificate from an official board of examiners showing that the contracting parties are free from contagious or transmissible venereal disorder. Some of our Western sociologists, with a fatalistic belief in the efficacy of legislative enactments to correct social evils, have sought to place such laws upon the statute books of Michigan and a number of other States. The remedy would be vain and futile of the anticipated results, its thorough enforcement would be impossible, its obvious effect would be to promote celibacy, as many self-respecting persons would rather forego marriage than be subjected to what they regard as a humili-

ating condition, while others would evade the law by simply crossing the borders of another State where such a law was not in force.

Further, owing to the laxity of the marriage laws in several States in which neither a license to marry nor religious or civil ceremony is required, it would be impossible to enforce the requirement of a medical certificate. In certain European countries where marriage is surrounded with legal formalities, which involve the drawing up of a contract, inscription, etc., the practical difficulties are less obvious, and the guarantee of health conferred by a medical certificate could be more consistently urged. "In Spain," says Jullien "the Minister of Justice is preoccupied with the necessity of having the physician intervene in every demand of inscription for marriage," and in Holland, according to the same authority, "the Batavian physician is relieved of all obligation of the medical secret in the face of marriage."

It is worthy of note that in Europe there is manifest a growing dissatisfaction upon the part of many medical men, amounting in some instances to an active protest, against the intangibility of the medical secret, especially its inflexible application in cases where the question of marriage is concerned. As indicating the drift of professional sentiment in this direction, in the discussion upon the "Sanitary Guarantees of Marriage," before the *Société Française de Prophylaxie Sanitaire et Morale*, July, 1903, many authoritative voices were raised against the dogma of the professional secret in the matter of marriage. M. Fortin demanded "that the law authorize the physician to no longer respect the professional secret when it comes to a project of marriage." In the opinion of M. Crequy, "the medical secret ought to

have exceptions which, in the superior interest of the race, should also apply to venereal maladies." MM. Cruet and Valentino presented essays demanding the relaxation of the medical secret in cases where the interests of the individual protected were opposed to the general interests.

It is also quite significant that within the last year a number of monographs and brochures have appeared, notably those of Charles Valentino and M. Dupuy, advocating the abolition of the medical secret, especially in cases where its suppression would be of public benefit. Valentino declares that professional secrecy is the most powerful obstacle to all real hygienic progress, as, by keeping concealed all morbid conditions, it impedes the efforts of the social forces against the spread of disease, renders ineffective the law for the compulsory notification of infectious diseases, and prevents the sanitary protection of marriage.

AFTER MARRIAGE.

While it is the duty of the physician to employ any justifiable means to prevent the premature marriage of a venereal patient, yet it more often happens that he is not consulted during this prematrimonial period, and his advice is only asked after the marriage has been consummated and the disease introduced into the household.

There are a variety of situations which present themselves in practice. The patient may have married believing himself cured; he may have received an infection from an exposure just before marriage, the results of which are not manifest until after marriage; he may have become contaminated from an exposure *post nuptias*. His wife may not yet have

been exposed to contamination, or she may already have been infected. It is evident that the physician's duty will be rendered more difficult and delicate in view of these more complicated situations.

In the first place, his manifest duty is to limit the disease if possible to the one who has no right to complain of it, and prevent its propagation to others, to establish a sanitary cordon which shall protect the woman and her offspring. He will find this task extremely difficult under conditions created by the exigencies of a life in common and which are so favorable to contagion. If the man has syphilis in an active contagious stage, it will be necessary not only to interdict all sexual intercourse, but to urge that every precaution be taken against exposure to the multiple and varied modes of extragenital infection, such as might occur from kissing or through accidental and unconscious contacts from sleeping in the same bed, using the same drinking or eating utensils, etc. If the wife has already become infected, it is of the utmost importance that she should have thorough and efficient treatment, not only to protect her from the individual risks of the disease, but also to secure its preventive influence upon its hereditary transmission.

The important question comes up in this connection whether the wife should be informed of the name or nature of her disease.

The fixed rule of professional conduct in these cases, from which there can be no deviation, is that no information or hint even of the nature of the disease should come from the physician. It matters not what may be the feelings of indignation or disgust he may entertain for the man, he must zealously guard the secret of the *patient*. The harm has been

done, and cannot be undone; the main indication is to limit its ill effects.

It is a question whether it is better in the interest of the wife as well as of the husband that she should not know or even suspect the nature of her disease, if it can be possibly concealed from her, and thus spare her the mental anguish, the sense of injury, shame, and humiliation which would come from the revelation.

From this point of view Langlebert advises that "the husband should have in the physician a faithful and intelligent ally who conspire together to conceal the nature of the disease."

The general trend of advice given by most writers is that the patient should "never own up." "Confess nothing, keep up appearances, and get well"; such is the formula for his guidance. Now, it is conceded that the physician in his efforts to save a compromising situation and preserve the harmony and peace of a household is justified in employing all the resources of his tact, all the skill of his diplomacy, and, if need be, resort to evasion and subterfuge, in protecting the patient from the consequences which might follow the wife's knowledge of the harm he has done her. While this policy of concealment coincides with the natural indisposition of the husband to avow his fault, its wisdom is open to question. The fact must not be lost sight of that there are other interests beside that of the husband to be considered, and most important is that of the wife in reference to treatment. Unfortunately, in keeping up attempts at deception, the infected wife may not only be made to incur all the individual risks of the disease communicated by her husband, but she is often denied the benefits of prompt and efficient treatment. Incredible as

it may appear, many husbands who infect their wives employ every possible means to prevent them consulting a physician from the fear of exposure of their infidelity, which must come from the wife's knowledge of the nature of her disease. The physician cannot too strongly arraign the selfishness and lack of humanity on the part of husbands in this regard, and should insist upon the wife receiving proper treatment as the condition of his continuing his professional relation with the husband.

Now, in practice it will be found extremely difficult, in many cases impossible, to treat a woman during the prolonged period necessary to a cure and dissimulate the nature of her trouble. Notwithstanding the most painstaking precautions on the part of the physician in concealing the character of the remedies employed, the exercise of his diplomacy in parrying her embarrassing questions as to "why she should have the same symptoms as her husband," etc., and in persuading her of the necessity of continuing treatment in the absence of all manifestations, sooner or later she is apt to divine the nature of the disease for which she is treated, so that the little comedy of deception and falsehood most often proves a dismal failure.

Thibierge strongly advises that in all cases when the husband has syphilis he should make an avowal of his fault, whether the wife has been infected or not. This simplifies the whole situation. If she has not been infected there may be an intelligent co-operation between both partners in taking proper precautions against it; and if she has already been contaminated, both can be properly treated, while pregnancy, which would be followed by such deplorable consequences, may be avoided.

To take off the keen edge of the situation, he suggests that the husband might forge the history of an extragenital infection, the probability of which may be attested by the physician, rather than confess that the disease was contracted from a former mistress or by a chance liaison.

CHAPTER IV.

COMPARATIVE SIGNIFICANCE OF GONORRHŒA AND SYPHILIS AS SOCIAL DANGERS.

IN the light of our present knowledge respecting the pathological significance of gonorrhœa it is a matter of surprise that its important relations with marriage have been until within recent times practically ignored.

For a long time the serious dangers which may attend the introduction of syphilis into marriage have been recognized by the medical profession. The relations of syphilis with marriage have been carefully studied and duly appreciated, the degree and duration of its contagious activity have been approximately fixed, and the conditions of admissibility of a syphilitic man to marriage have been rigorously formulated.

On the other hand, gonorrhœa has until comparatively recently been regarded as a purely local disease, trivial in character, of limited duration, and entailing no serious consequences in married life.

While gonorrhœa cannot claim the multiple and varied modes of syphilitic contagion, and is insusceptible of hereditary transmission, yet, owing to its much greater frequency, the persistent vitality and virulence of its germs, and especially the grave nature of the infection in women and its serious menace to the health and even the life of its victim, to say nothing of its destructive effects upon the procreative

function, it must be considered quite as formidable a social plague as syphilis.

Unquestionably the most sombre chapter of marital syphilis is the murderous influence of the disease upon the offspring, but the no less potent agency of gonorrhœa as a factor of depopulation through its inhibitory influence upon the conceptional capacity is by no means adequately appreciated.

When syphilis is introduced into the family, the situation, though bad enough, is not without hope. All the possibilities promised by marriage are not irrevocably lost. After the first series of explosive violences are expended upon the offspring, there is still hope that under the attenuating influence of time and treatment the virulence of the diathesis will be exhausted, and the results, so far as the procreation of healthy children is concerned, may be as if the disease had never existed. But the introduction of gonorrhœa into married life entails consequences infinitely more disastrous to the health and life of the mother. She may be rendered a lifelong victim and her hope of children absolutely extinguished. When the gonorrhœal infection invades the annexial organs, determining obliterations, adhesences, deviations, etc., these changes are final and irremediable; the woman becomes irrevocably sterile, not to speak of the danger to her life, which, in many instances, can only be averted by the sacrifice of her reproductive organs.

We are accustomed to look upon syphilis as the most active cause of depopulation, but gonorrhœa is the much more powerful factor. Janet, in discussing "Social Defence against the Venereal Peril," recently (1902) declared "that gonorrhœa with tuberculosis, perhaps more than tuberculosis, is the great pest of our age. If we compare from a social point of view

the importance of gonorrhœa with that of syphilis, gonorrhœa is to syphilis as 100 is to 1, not only from the standpoint of the number of persons attacked, but also from the standpoint of the gravity of the lesions and their perpetuity. Gonorrhœa modifies in a manner, often permanent, the genital organs of patients, renders them infinitely dangerous for the women they approach, causes all the metritides and annexial inflammations which to-day give to surgeons three-quarters of their work, and conduct finally both men and women to sterility."

The predominance of gonorrhœa as a cause of depopulation is not surprising in view of the fact that it primarily and specifically affects the organs of generation. In the male this is so essentially true that almost every inflammatory process affecting the genito-urinary organs is at once referred to gonorrhœa as the exciting cause. In the woman the whole brunt of the disease falls upon the reproductive apparatus. All modern writers upon diseases of women recognize that gonorrhœa is the chief determining cause of the inflammatory diseases peculiar to women. Syphilis, on the contrary, while it owes its genesis in the majority of cases to inoculative contact of the genital organs, is in no sense a genito-urinary disease. "It is only genital in its approach, and not at all in its manner of expression" (Keyes). Syphilis is a disease of the general system; its most essential lesions are in organs quite remote from the genital sphere; its effects upon the generative organs are the expression of nutritive disorders which affect the general system.

We may ask why this disparity in the relative importance assigned to syphilis and gonorrhœa in their relations to marriage. One reason is the greater dread which syphilis has always inspired on account of the more formidable character

of its manifestations compared with the relatively mild and apparently harmless symptoms of gonorrhœa. The popular conception of these two diseases is expressed in the French proverb, *On craint le verole mais on rit de la chaudepisse.*

The true explanation of this disparity must be sought for in the lack of co-ordinate development of our knowledge of these diseases, or, rather, in the limitations of our knowledge respecting the pathogenetic rôle of the gonococcus.

HISTORICAL GLANCE.

A brief historical glance at the evolutionary phases of our knowledge respecting venereal diseases is necessary in order to appreciate the advances which have led to an entire change in our ideas and established upon a scientific basis the magnified importance of gonorrhœa as a social peril quite as formidable as that of syphilis.

In the first place, it may be said that there is no disease or class of diseases concerning which our knowledge has undergone more marked and revolutionary changes within the past half century than the group of diseases comprehended under the general term "venereal." It is to be remembered that these diseases were during a long period regarded as identical in origin and nature. With the irruption of syphilis in Europe toward the close of the fifteenth century the identity of gonorrhœa was swallowed up in the greater importance of this newer and more formidable disease, and came to be regarded as a symptom of syphilis. The unity of the origin and species of all forms of disease of the genital organs came to be the generally accepted belief, and, although many dissentient voices were from time to time raised against

it, this doctrine reigned practically supreme for more than three centuries. Notwithstanding the results of Hernandez's experiments in 1812, demonstrating that gonorrhœa had no relation with syphilis than a possible coexistence, they were not accepted as decisive. The doctrine of the identity of gonorrhœa and syphilis continued to dominate professional opinion until it was finally overthrown in 1837-38 by the weight of Ricord's authority, supported by the result of 667 inoculation experiments showing conclusively the non-identity of these two diseases.

Even after the separation of gonorrhœa and syphilis there was no distinction recognized between the nature of venereal sores. The century had passed its meridian before Bassereau had demonstrated that soft chancre was etiologically distinct from syphilis.

Beginning now with the period when the independent origin and nature of the three venereal diseases was definitely established upon the basis of experimental and clinical evidence, although even then by no means universally accepted, we may now inquire what have been the advances in our knowledge of these diseases, more particularly of gonorrhœa and syphilis, which have an especial interest in connection with the objects of this study.

The modern acquisitions to our knowledge which emphasize the importance of venereal diseases as a social danger and have a practical bearing upon the question of their prophylaxis are of much interest, and may be stated as follows:

1. Their pathological import, comprehending the risks to the health and life of the individual.
2. The sources, modes, and duration of their contagion.
3. The period of treatment necessary for their cure.

SYPHILIS.

PATHOLOGICAL IMPORTANCE. Syphilis as we comprehend it to-day had a much graver significance in its relation to the health of the individual than was formerly supposed. Not that it exhibits a severer type, but that our conception of the range of its pathological action has been greatly enlarged with our increasing knowledge of the number, complexity, and far-reaching character of its morbid processes. While it was known that syphilis was a constitutional disease and capable of causing changes in the internal organs, these systemic complications were regarded as few in number and of only occasional occurrence. The secondary accidents, visible upon the surface of the body, were thought to constitute almost the entire symptomatology of the disease.

"In a general way one may say that external tertiarism, that which is visible or tangible (cutaneous and mucous syphilides, gummata and osteopathies), has always been attached to syphilis, while internal or visceral tertiarism is a modern or even contemporary acquisition. To speak more definitely, it is only in the second half or last third of the nineteenth century that there have been annexed to syphilis a vast number of manifestations of specific origin unrecognized until then" (Fournier).

At the present day secondary accidents are regarded as of subsidiary importance, as they rarely compromise the integrity of any important organ. They are disfiguring and annoying, but they are essentially resolute, and with the exception of iritis and other eye affections they are without real gravity. We now recognize that the infection of syphilis is of a more profound and permanent character, that it may

affect every constituent element of the body, and that these systemic complications are serious and often fatal.

The tertiary manifestations of the disease, the cerebral, spinal, vascular, ocular, articular, pulmonary, intestinal, hepatic, and renal affections constitute the chief significance, as well as the individual danger of the disease. Hunter declared that "he had never seen syphilis affect the brain, the heart, the stomach, the liver, the kidneys, and other viscera." He considered "all these organs insusceptible to the action of the syphilitic virus." Astley Cooper declared that "the brain was one of those tissues which did not appear to be altered by the influence of the venereal virus." A little over forty years ago Lasèque regarded specific accidents of the nervous system "as rare and indecisive manifestations of syphilis which should figure only in the title of an appendix in the history of the disease." We now recognize that of the tertiary manifestations syphilis of the brain and cord occupies the first rank in frequency as well as gravity. It is generally considered that syphilis is the most common etiological factor in diseases of the nervous system.

Among the modern acquisitions to our knowledge is the recognition of a group of affections termed parasyphilitic, which, though manifestly of syphilitic origin and nature, are endowed with an additional gravity, from the fact that they are extremely refractory to specific treatment and practically irremediable. As types of this group may be mentioned locomotor ataxia and general paralysis. "The incorporation of this group of affections of an essentially grave character, and for the most part incurable, in the category of syphilis," says Fournier, "has transformed the malady in respect to the sum and the quality of the perils it bears, so that syphilis as we

now comprehend it is very different, from a prognostic point of view, from syphilis such as our fathers regarded it, and even as we ourselves regarded it fifteen or twenty years ago."

HEREDITY.

Among the social dangers of syphilis the most important from a strictly biological standpoint are its hereditary consequences. No other disease is so susceptible of hereditary transmission, so pronounced in its influence, and so fatal to the offspring. Not only does it constitute, by its frightful mortality, a potent factor of depopulation, but through the dystrophies and organic defects it impresses upon the descendants it is an active cause of the degeneration of the race. The pathological field of syphilis has been singularly enlarged by recent acquisitions to our knowledge of its late hereditary manifestations. Many morbid states which were formerly referred to scrofula and other diathetic causes are now recognized as due to hereditary syphilis. Further than this, recent researches have shown most conclusively that these dystrophic conditions may be transmitted to the third generation. Not only is there manifest a marked predisposition to abortion, but the descendants of heredosyphilitics exhibit the same defects and dystrophies as characterize their progenitors.

SOURCES, MODES, AND DURATION OF CONTAGION. Ricord (*Lettres sur la syphilis*, 1856) formulated the generally accepted view that "the primary ulcer in its period of extension is the sole source of the syphilitic poison." According to this view the period of the contagious activity of syphilis begins and ends with the chancre. This conception of the non-

contagiousness of secondary accidents, which originated with Hunter, was perpetuated by the weight of Ricord's authority until within comparatively recent times, and is even now generally held by the laity.

It is scarcely necessary to indicate the clinical as well as the experimental facts upon which is based the now universally accepted view that the blood as well as the morbid secretions of syphilitic lesions are during a certain period contagious and inoculable.

Clinical observation has demonstrated that the mucous patch, by its continuous multiplication and its tendency to recurrence for years after primary infection, constitutes the chief source of infection in syphilis. The relative frequency of the chancre and the mucous patch as the source of contagion may be approximately stated. According to Fournier, "out of ten syphilitic contaminations there is only one derived from the chancre against nine derived from mucous patches."

DURATION. The period during which syphilis may be communicated either by direct contagion or by transmission to the offspring has a most important bearing upon the relations of the disease with marriage. While this does not, even at the present day, admit of mathematical expression, it is now recognized as much more prolonged than was formerly supposed.

PATERNAL HEREDITY. It was formerly thought that hereditary syphilis was derived exclusively from the mother. Cullerier (1851), whose opinion was accepted by leading syphilographers, denied the possibility of paternal agency in the transmission of syphilis. To-day there is an almost complete unanimity of sentiment upon the doctrine of the paternal transmission of syphilis.

THE PERIOD OF TREATMENT. No better illustration of the pronounced change in medical opinion respecting the prolonged duration of the syphilitic diathesis can be furnished than the change in views as to the necessary duration of treatment. With each decade there has been a progressive lengthening of the period of treatment to correspond with our more accurate knowledge of the prolonged life-term of the malady.

Take for example the teaching of Fournier, who stands *jacile princeps* as the foremost and most progressive syphilographer of the last half century. At the beginning of this period three or four months' treatment was thought quite sufficient to cure syphilis. In 1861 Fournier formulated what were then considered Ricord's extreme views, as follows: "Six months of mercurial treatment, followed by three months of iodide treatment—such is the medication which gives the most permanent cures, which succeeds in the enormous majority of cases in veritably neutralizing the toxic virus."

A few years later he declares: "It is certain that a mercurialization of five or six months is not always sufficient—far from it—to extinguish the diathesis. This I have learned by a series of many personal unsuccesses—by a series of failures experienced by myself."

In 1873 he advocated *two years* of mercury on the average, with the statement that "in thousands of cases treated in this way, none of those whose cases I have been able to follow have experienced any diathetic accidents."

In 1880 he declares: "It is false, absolutely false, that one has finished with syphilis after a treatment of some months, of one year, of two years even; such treatments are condemned by their deplorable results. Three or four years

systematically devoted to an energetic treatment—such is the necessary minimum in my opinion.”

In his work (*Le Traitement de la Syphilis*, 1897) he does not commit himself to a chronological limitation of the period of treatment; while not repudiating his former evaluation, he declares that in some cases in the presence of rebellious, recurring, or menacing accidents the treatment should be continued to the fourth, fifth, or even sixth year.

These quotations have not been made to convict the eminent syphilographer of inconsistency, but rather as an evidence of the progressive spirit of the clinician whose therapy advances *pari passu* with the advance in our knowledge respecting the prolonged and persistent character of the syphilitic diathesis.

GONORRHŒA.

PATHOLOGICAL IMPORTANCE. Precisely as in the case of syphilis, we find that with the progress of our knowledge the pathological field of this disease has been vastly enlarged, only these new ideas have been of slower growth and of more recent development.

The old conception of gonorrhœa was that of a catarrhal inflammation which was for the most part confined to the mucous tract in which it has its habitual origin.

The common complications of gonorrhœa, inflammations of the prostate and bladder, of the seminal ducts and vesicles, epididymis and testis, were well known as well as certain sequelæ, stricture, etc. The frequency of ascending inflammations of the ureters and kidneys, causing pyelitis, which not only seriously compromise the health, but may endanger

life, is a modern acquisition. Likewise our knowledge of the frequent origin of enlarged prostate from chronic posterior urethritis, and the influence of chronic urethritis as a predisposing cause of urogenital tuberculosis, is essentially modern.

The occasional occurrence of rheumatism and ophthalmia affecting chiefly the membrane of Descemet and the iris was recognized by Hunter, Ricord, and others, and variously explained—the former as a metastasis due to the development of a latent rheumatic diathesis, the latter as a “sympathetic inflammation,” etc. These complications were regarded as pathological coincidences rather than an expression of the gonorrhœal process. The idiosyncrasy of the patient was thought to play an important rôle in their production. Even the pathogenesis of epididymo-orchitis was regarded as obscure, and attributed to “sympathy,” “reflex influence,” “metastasis,” etc.

While the symptomatic characters and clinical course of masculine gonorrhœa had been definitely traced and a distinction drawn between virulent urethritis and the simple urethritis from local irritants and certain diathetic disorders, it is to be remembered that until comparatively recent times Ricord's doctrine of the non-virulent character of urethritis was generally accepted.

The modern period of our knowledge of gonorrhœa dates from the discovery of the gonococcus. Within the past two decades no coccus has so grown in pathogenic importance as the coccus of Neisser.

When its discovery was first announced (1879) its identity was first questioned, then confounded with banal cocci, which normally inhabit the genital mucosa, and its causal connection with gonorrhœa denied. Almost every year investiga-

tions have added to our exact knowledge of the wide range of its pathogenic influence. Instead of gonorrhœa being limited to the genito-urinary tract, as was formerly supposed, its morbid action is now recognized as being much more extensive, not infrequently radiated to important visceral organs. As the result of modern investigations it may be positively affirmed that the gonococcus is susceptible of being taken up by the bloodvessels and lymphatics and that it may affect almost every organ of the body. The preferential infection is directed to the serous structures of the body. Staining and culture experiments have demonstrated its presence not only in the ovaries, tubes, and peritoneal cavity, which it reaches through progressive invasion of the intermediate mucous membranes, but also in the brain and cord, the endocardium, the pleura, the liver, spleen, kidneys, the joints and tendon sheaths and periosteal, to which it is carried by the bloodvessels and through the peripheral capillaries to the skin.

The number, variety, and gravity of these systemic localizations has led to the serious consideration of the question whether gonorrhœa is not to be classed as a constitutional affection—whether these remote effects are to be considered as only occasional and exceptional metastatic complications, or whether there does not actually exist in all cases a latent infection which is only manifest by these systemic localizations in grave cases or in individuals specially predisposed. It is maintained by many authorities that gonorrhœa is a general toxæmic infection, and that in addition to and quite independent of these general complications there occur symptoms of general malaise, weakness, anæmia, sometimes fever, which should be ascribed to a general infection of the organism.

These systemic effects have been ascribed to the pathogenic

action of the gonococci, their toxins, or to diverse microbes associated with the gonococcus. At the present day it is generally recognized that the importance of the mixed infections has been exaggerated and that the gonococcus alone is capable of determining all the manifestations which have been attributed to pyogenic cocci. This is essentially true of the infections of the uterus, its appendages, and the peritoneum which were formerly attributed to the action of the streptococcus and other pyogenic cocci. It is now recognized that the gonococcus under special conditions takes on an exalted virulence, exhibited by rapid proliferation, intensity of action, and invading tendencies.

In the female the local and general effects of gonorrhœa are apt to be much more serious and permanent, owing to the character and extent of the structures involved. The prominent rôle played by the gonococcus in the etiology of diseases of the female pelvic organs, and especially in the causation of sterility, will be elsewhere considered.

SOURCE OF THE CONTAGION. In conformity with Ricord's doctrine that "a woman frequently gives gonorrhœa without having it," the origin of masculine gonorrhœa was attributed to a multiplicity of simple causes. At that period no careful and complete study of gonorrhœa in woman had been made, and our present knowledge of this subject is the result of comparatively recent investigation.

Says Verchère: "One denied the right to a woman *not* to have gonorrhœa; she possessed it *innately*, permanently, and immanently. She was contagious without having been contaminated. The woman was considered dangerous *ipso facto*, as she contained in herself all the elements necessary to give gonorrhœa."

The menstrual discharge, leucorrhœa, secretions from ulcerations of the cervix and os uteri, from simple excoriations—in fact, all uterovaginal secretions of an irritating character were regarded as the sources of gonorrhœa.

At the present day we recognize that the gonococcus is the sole pathogenic agent of gonorrhœa in man and woman, and that the source of the infection is in the immense majority of cases a chronic or latent gonorrhœa.

Medical opinion was expressed with Gallic brevity in the following aphorism, "*Le goutte militaire ne donne pas la chaudepisse.*" So far from gleet being considered contagious, marriage was recommended as the simplest and easiest mode of cure.

DURATION. The period of the contagious activity was formerly supposed to end with the cessation of the active purulent discharge. The duration of this period is now recognized as being synchronous with the longevity of the gonococcus in each particular case. This period is practically indefinite, or at least indeterminate in duration. Numerous cases are on record where the gonococcus has been found still conserving all its virulence and susceptible of being provoked into explosive violence by a variety of irritant causes years after infection. In one case under my observation the contagious activity of the disease was manifest four years, in another six years, after apparent extinction of the original infection, so far as objective signs of a visible discharge were concerned. In both cases there was an apparently honest denial of any exposure to subsequent infection.

PERIOD OF TREATMENT. With the revelations which have been made of the persistent and prolonged virulence of the germs of gonorrhœa there has been a progressive lengthening

of the period of treatment. While a virgin gonorrhœa may be ordinarily cured in four or five weeks, sometimes sooner, by the improved plans of treatment modern science has placed at our disposal, when a gonorrhœa has lapsed into a chronic stage, especially when located in a urethra damaged by antecedent disease, its successful treatment must be measured by months instead of weeks.

Jullien thinks that six months may be considered the minimum period which should be demanded when the patient consults us in regard to marriage. Janet thinks that six months' treatment is the average for ordinary cases, but when conjoined with what he terms "receptivity of the urethra," it may require a period of from one to four years of treatment and observation to assure a complete cure.

Taking the experience of the leading genito-urinary specialists in this country and Europe as developed by the results of the investigations of the Committee of the American Medical Association, six months may be accepted as the average duration of treatment of chronic gonorrhœa, while in the experience of some of the reporters, about 3 per cent. of the cases were practically incurable by any treatment whatever.

CHAPTER V.

GONORRHŒA.

AT the present day it is no uncommon experience for a physician to be consulted by a man with gonorrhœa as to the safety of his getting married. Less than a generation ago, when the laity looked upon the cessation of the purulent discharge as an evidence of the cure of the disease, and when it was taught by the profession that the occasional intermittent discharges which frequently persisted in the form of gleet were not contagious, and the "sexual hygiene of married life" was recommended as a means of cure, this matter gave no concern to the patient and occasioned but little perplexity to the physician. But, in some way or other, the perception has penetrated the consciousness of the laity that gonorrhœa may entail consequences in married life. What these consequences may be has already been briefly outlined and may now be more fully considered:

Since no disease is more surely transmissible in the married relation than gonorrhœa, the man who marries with an uncured gonorrhœa will almost certainly communicate his disease to his wife. The results of this infection embrace:

1. The individual risks to the health and life of the woman.
2. Its effects upon her conceptional capacity in inducing sterility.
3. Its effects upon the infant in the production of abortion, premature birth, ophthalmia neonatorum, blindness, etc.

4. Dangers to the entourage; the vulvovaginitis of young girls, which not infrequently results from the introduction of gonorrhœa into the family.

It will be seen, then, that the answer to the question, "May I get married?" may entail serious consequences which may affect not only the health and life of his partner, but may defeat the primary object for which marriage was instituted, namely, the perpetuation of the race. The answer to this question involves not only pathological but also moral results.

The happiness of the household may be compromised by the premature marriage of a man with gonorrhœa. While the infection of the wife, with all its grave consequences, would be an unfortunate catastrophe, it will be admitted that a mistake in the other direction from an excess of caution which would probably break off the marriage and condemn the man to celibacy, is scarcely less to be deplored.

While the men who marry with uncured gonorrhœa are of course directly responsible for the infection of their wives, the medical profession has not appreciated its share of the responsibility for these tragic results. The physician when consulted is more apt to err on the side of leniency than on the side of severity in rendering a decision. Either from ignorance, from a careless examination, from a cheerful optimism and a disposition to be too indulgent to the inclinations of their patients, they are too prone to stretch every point in their favor. They impose the minimum delay, and, with a fallacy of interpretation of every favorable symptom and a disregard of every indication of a contrary nature, they have too often sanctioned a premature consummation of marriage which is entirely unwarranted by the condition of the patient and is

followed by the most serious consequences to the wife and mother.

In the majority of cases of conjugal contamination that have come under the author's observation the men have honestly believed themselves cured. In many cases they have been assured by their physicians that it was perfectly safe for them to marry. The physician fails in his duty if he does not satisfy himself by the most rigorous and exhaustive tests known to science of the patient's freedom from contagion before he sanctions marriage; if he does not enlighten his patient fully and thoroughly as to the dangers to which he will expose his wife from the terrible complications of gonorrhœa; if he does not exert all the moral authority of his profession to prevent a premature marriage in persuading him to forego his project of marriage until it can be carried out with safety and without dishonor.

CHAPTER VI.

RISKS TO THE HEALTH AND LIFE OF THE WOMAN.

GONORRHOEA IN WOMEN.

WITH the discovery of the gonococcus by Neisser it became possible to trace the pathogenic influence of the germ by its identification in many local and systemic disorders which it occasioned. Even before the discovery of the gonococcus, Noeggerath, with a prescience which can be considered scarcely less than intuitive, recognized the pathogenic influence of gonorrhœa upon the pelvic organs of women, and, reasoning from effect to cause, boldly incriminated the latent urethritis of the male as the active factor in the production of these inflammations and the oft-resulting sterility. The vagaries of Noeggerath, as they were then considered, have become, with some modifications, the accepted facts of science to-day. Indeed, subsequent investigation has rather broadened than restricted the pathogenic influence of the gonococcus in the causation of pelvic inflammations.

In order to prevent unnecessary repetition in referring to the serious and multiple dangers of gonococcic infection in women as we comprehend them to-day, a brief résumé of the more distinctive characters of feminine gonorrhœa as distinguished from the same affection in the male may now be presented.

In tracing the evolution of our knowledge of gonorrhœa we cannot fail to be impressed with the fact that this disease in woman has not until within recent years been the subject of serious and careful study. The attention of pathologists was almost exclusively directed to masculine gonorrhœa. Many inflammatory affections of the female genital organs were referred to simple causes or regarded as peculiar to woman by virtue of the physical organization and physiological functions peculiar to her sex.

While gonorrhœa in women is due to the same pathogenetic agent as masculine gonorrhœa, it is characterized by certain distinctive differences determined by the anatomical peculiarities and disposition of the female genital surfaces. The greater extent of the genital tract permitting a larger field for infection by direct continuity of tissue, the situation of the annexial organs in the pelvic cavity, and their proximity to so vital an organ as the peritoneum, the periodical vascular changes incident to the menstrual period, and especially the marked modifications in structure induced by the puerperal state, all exert a marked influence in accentuating the gravity of gonococcic infection in women.

ETIOLOGY. Gonorrhœa in women has for its sole etiological factor the gonococcus; the source of this contagion in the vast majority of cases is a chronic or latent gonorrhœa in man. The reason of this is obvious. A man suffering from acute gonorrhœa is inapt for sexual intercourse; erections are painful, and coition is attended with such abnormal sensations that it is rarely indulged in. Then, again, most men have sufficient conscience to refrain from exposing a woman to what they must recognize as a certainty of infection. Certain peculiarities which distinguish gonorrhœa

in women from masculine gonorrhœa may be here briefly referred to.

SUSCEPTIBILITY. While the mucous membrane of the female genitals is readily susceptible to gonococcic infection, it does not afford so favorable a culture field for the rapid proliferation of the germs as the male urethral mucous membrane, exception being made perhaps of the female urethra, so that it happens more often in women that the primary infection is apt to be torpid *ab initio*.

The characteristic symptomatology of specific urethritis in men is due almost solely to the gonococcus and rarely to associated cocci. While the fossa navicularis is inhabited by numerous microbes, they appear to take no part at all in the acute inflammatory process. In women the genital mucosa not only swarms with micro-organisms, but is more exposed to inoculation with cocci from without, and the gonorrhœal infection may coexist with other infections, so that mixed infections are much more common in women.

LOCALIZATION. In men the infection is always superficial, beginning at the meatus and fossa navicularis, and only reaches the deep urethra through progressive invasion of the intermediate mucous membrane unless carried down by instruments. In women the infection is more often primarily localized in the deep parts, which is explained by the physiology of coitus, the germs being deposited in the uterine neck at the moment of ejaculation.

In the woman the infection ordinarily remains localized in its primary seat without extension to neighboring points, until some exciting influence, as sexual excess, the congestion due to the menstrual period or pregnancy, determines an extension of the process. The autoinfection may radiate in

both directions, taking a descending or, what is more frequent, an ascending course. Not infrequently there is an infection of the vagina and urethra from the cervical secretions containing gonococci, the vagina, according to Bumm, serving as an incubating bed for the stagnant secretions in which the gonococci proliferate but rarely penetrate the vaginal epithelium. This view of the immunity of the vagina from infection, primary or secondary, is not, however, generally held.

More often, however, the inflammation is ascending, and the gonococci invading the endometrium of the womb pass upward through continuity of tissue to the tubes, ovaries, and peritoneum. Our knowledge of the habitual cervical localization of primary gonococcic infection is essentially a modern acquisition. To this lack of knowledge must be attributed the fact that the frequency of gonorrhœa in women was so long overlooked, unrecognized, and unstudied. Undoubtedly it represents the worst form of gonorrhœa in women, not only from the standpoint of its insidious invasion, its unobtrusive and symptomless character, its failure of recognition and treatment, but from the fact that it constitutes the point of departure of invasion of the fundus of the womb and the annexial organs.

It is to be noted, however, that even gonorrhœal metritis may not reveal itself by any characteristic symptoms, and the woman may be utterly unconscious that she carries a serious infection. The chief significance of gonorrhœal metritis is that it is the origin of almost all cases of salpingitis.

"Gonorrhœal salpingitis and, consecutively, peritonitis are almost certain when there is an endometritis more or less durable" (Saenger).

"The consensus of opinion among modern authors is that gonorrhœal salpingitis always has its origin in endometritis of the same nature" (Ozenne).

When the infection reaches the tubes and ovaries it may remain localized, giving rise to the characteristic symptoms of salpingo-ovaritis, or it may extend to the peritoneum. This propagation is favored by the fact of the anatomical disposition of the parts, the peritoneum forming a carpet or tunic for the annexial organs.

"That which constitutes the undeniable and scientifically demonstrated gravity of gonorrhœal infection, even attenuated, in women is not only the communication of her mucous membranes with the peritoneum, but indeed *tout l'ensemble* of her sexual life" (M. Paul Petit).

We need not consider here the long and serious train of functional disorders, suppurative inflammations, etc., with their recrudescences and recurrences which are the cause of ill health as well as a menace to the life of the woman. Especially of importance is the influence of pelvic peritonitis in determining obliteration of the tubes, modifications in their anatomical relations, adhesions, and displacements, uterine deviations, retroversions, and their permanent fixation by solid adhesions. It is well known that extra-uterine pregnancy and sterility are the almost inevitable consequences of the abnormal relations of the tubes and ovaries.

CHARACTER OF THE INFECTIVE PROCESS. Another peculiarity of gonorrhœa in women is the torpid, non-acute character of the infectious process. In the male, gonococcic infection is manifest by symptoms of acute virulent inflammation attended with a profuse purulent discharge. These acute symptoms are seldom so pronounced in women, even

when the urethra and external genitalia are the seat of the infection. Even then there is a tendency to pass rapidly through the acute stage into a chronic stage. In the majority of cases the infection is established insidiously without acute symptoms, either of a subjective or objective character, so that as a rule gonorrhœa in the female presents itself as a chronic affection either from the rapid subsidence of the acute symptoms, or it develops *d'emblée* as a chronic process.

This characteristic explains why gonorrhœa in woman was formerly overlooked and the symptoms referred to various banal conditions of the female generative apparatus, and also why, when its existence was recognized, it was regarded as a comparatively mild and easily curable disease—the rapid subsidence of the acute inflammatory symptoms being accepted as an evidence of the cure of the disease. This false doctrine has been perpetuated by our text-book authorities almost to the present day.

The torpid character of the infectious process is explained by the nature of the source. As is well known, when masculine gonorrhœa lapses into a chronic stage the gonococci become few in number and sparsely distributed in the follicular structures of the urethral mucous membrane. In these deep lodgements they lie dormant or inactive, merely vegetating in an attenuated form while still conserving their innate capacity of virulence. When transplanted to the female genital mucosa their action depends upon the accident of localization; if their new habitat is the urethra they find a more favorable soil and develop active inflammatory symptoms; if the primary infection is in the cervix they are more apt to preserve their torpid, slowly proliferating character. It requires some special excitation to arouse them from this

dormant, inactive state and endow them with an exalted virulence.

One determining cause is found in the physiological functions of the female which periodically occasions a more or less marked exacerbation of the symptoms. It is claimed that the abundant seromucous secretions—"the little lochia"—which immediately follow the menstrual period constitute an excellent culture field for the gonococci. It is well known that a woman with chronic gonorrhœa who is innocuous so far as contagion is concerned during the intermenstrual period, may become eminently contagious immediately after her menses. Not only is there a multiplication of the gonococci, but the danger of autoinfection is increased owing to the modifications in the uterine mucosa, and perhaps also to the more open, patulous condition of the os internum, which opposes less resistance to the entrance of microbes.

When the gonococci gain entrance to the body of the womb or the endometrium proper, general symptoms, more or less pronounced, are apt to develop with marked exacerbations at each menstrual epoch, attended with an increase in the mucopurulent discharge for some days after the period.

INFLUENCE OF PREGNANCY.

The reciprocal relations of gonorrhœa and pregnancy have been most carefully studied by Wertheim, Winckel, and more recently by Fruhinsholz, who has embodied the results in an admirable monograph upon the subject.

From these studies it appears that pregnancy, which may result in abortion or accouchement at full term, constitutes the greatest conceivable danger to women with gonorrhœa

of the cervix. The condition to which many women ardently aspire in the fulfilment of their hopes of maternity thus becomes the instrument of their destruction—the Nemesis of their fate. The hour to which women look forward as the termination of the pains of confinement is but the beginning of a long period of suffering, of danger, and perhaps of death.

When a gonorrhœal woman becomes pregnant the disease, hitherto passive, is apt to undergo a modification more or less marked in its virulence and course.

Steinbruhl and others have remarked the frequency with which the first clinical signs of gonorrhœa coincided with conception. Fruhinsholz claims that “the simultaneity of the appearance of gonorrhœal symptoms and fecundation is in the majority of cases due to the revival of a latent gonorrhœic infection.” What may be termed *l'action revelatrice* of pregnancy in many cases of latent gonorrhœa is attested by numerous clinical observers.

Gottschalk and Immerwahr report cases where under the influence of pregnancy there was such a multiplication of diplococci in the cervical secretion that the slide preparations gave the illusion of a pure culture. It is observed that vaginitis is more common in the course of pregnancy from the abundance and virulence of the cervical secretion and the more receptive character of the vaginal tissues to the action of microbes during this period. Menge claims that of all pathogenic microbes the gonococcus is alone susceptible of developing in the vaginal secretions of the pregnant woman.

INFLUENCE OF ACCOUCHEMENT.

While there is no positive means of ascertaining how much the gonorrhœal process may gain in extension during the course of pregnancy, there can be no doubt that with the termination of pregnancy, whether it be in abortion or in accouchement at full term, there is communicated a powerful impulse to the upward ascension of the infection.

Abortion and accouchement create the morbid opportunity which permits this infection, now revived into virulence, to pass through the tubes to the ovaries and peritoneum and determine the grave consequences which follow profound infection.

In the large majority of cases pregnancy is the pivot upon which hangs the destiny of the woman so far as the extension of the infection to the womb and its annexes is concerned. While cervical gonorrhœa is the cause as well as the point of departure of ascending infection of the uterus and its appendages, the process of parturition communicates the pathological impulse.

All investigators who have had occasion to examine the lochial fluid unite in attesting that immediately after confinement, often as early as the second day, there is an extraordinary multiplication of the gonococci. The lochial fluid is an excellent culture medium, and the gonococci are found in a state of almost pure culture. Bumm, who has carefully studied the bacteriology of the female genital canal after parturition, states that the gonococci are not only more flourishing than ordinary, but that they were encountered in one out of every five cells on the average, even when they are absent during pregnancy.

Steinbechel reports three cases where the gonococci could not be demonstrated in microscopic preparations made from the cervical secretion during pregnancy, yet appeared in the lochial flow after accouchement. Fruhinholz, from whose work the above citations are made, states that the multiplication of the gonococci in the lochial fluid during the first days of puerperality seems incontestable, and that it is especially favored by the state of imbibition of the tissues.

Not only are gonococci multiplied in numbers and exalted in virulence and the way opened for ascending infection, but the soil is prepared by the process of parturition. The mechanism of the production of ascending inflammation is explained by the anatomical changes in the uterus which take place.

"After accouchement the tissues of the genital organs are in a peculiar state of imbibition, of infiltration, of succulence. The uterine orifices are enlarged, the mucous membrane desquamated in part, but the glandular cul-de-sacs persist and offer to the gonococcus a favorable soil for its proliferation." Not only so, but parturition may expose the woman to the peril which comes from other pyogenic cocci—the streptococcus, staphylococcus, etc. The gonococcus inaugurates the infection and prepares the way for these secondary cocci. After they are installed the gonococcus may combine and become associated with them, constituting mixed infections.

It is still a moot point which divides the opinion of investigators, whether the gonococcus is the dominant factor in infections of the tubes and ovaries which so frequently follow parturition, or whether they represent a mixed or a secondary

infection by pyogenic cocci. While there is no question that other cocci are frequently found associated with the gonococci, it is difficult to determine the precise measure of pathogenic influence due to the gonococcus and the streptococcus, respectively. In the opinion of many authorities the gonococci are the active pathogenetic agents. Others contend that their work is subsidiary and limited to preparing the way.

DIAGNOSIS. While the diagnosis of gonorrhœa in the female is relatively easy when the infection is acute, when the disease has been long persistent, and especially when deep seated, it may be a matter of extreme difficulty. The determination of the gonorrhœal nature of inflammatory disease of the female pelvic organs is rendered difficult by the fact that the gonococcus cannot always be identified in the lesions it causes. While these organisms readily penetrate into the tubal cavity, their presence is not constant in old cases of salpingitis. They have been destroyed by the purulent inflammation which they occasioned. The difficulty of diagnosis is often further confused by the circumstance that the genital tract of women abounds in diverse micro-organisms which are ordinarily inoffensive, but which find in the purulent secretions provoked by the gonococci and the changes in the epithelium a favorable culture field and add their pathological effects. In these cases the gonococci, after having inaugurated the suppurative process, disappear, and the pathological field is taken possession of by these pathogenic cocci. One may be morally certain that the salpingitis is of gonorrhœal origin, yet a bacteriological examination at a given time may fail to reveal the gonococci as the causative agent. Gynecological literature abounds in cases

in which the most minute and painstaking bacteriological examination had failed to disclose the gonococci in the secretions of a woman during pregnancy, and yet they were found abundantly and typically present in the lochia after confinement.

One is often called upon to decide upon the nature of a disorder by the clinical course of the affection and the more or less characteristic symptoms present rather than by bacteriological examination. To Noeggerath the existence of chronic or latent gonorrhœa in man was held to be sufficient proof of the gonorrhœal origin of disease of the uterus and annexa in his wife. To other observers the occurrence of purulent ophthalmia in the newborn was proof positive that gonorrhœa existed in the mother, although no antecedent symptoms may have led to this suspicion.

FREQUENCY. The frequency with which these annexial complications occur is variously estimated by different authorities. Verchin states that in all of his operations for salpingitis the cause could be attributed to a gonorrhœic origin or at least to the consequences of gonorrhœa. In Pozzi's operations at the Lourcine Hospital almost all were for gonorrhœal salpingitis. Puerperality alone never appeared as the cause of the fatal lesions.

Verchére states that the frequency of salpingo-oophoritis is much greater than formerly supposed. "I have often discovered a latent salpingo-oophoritis in women who have never had any abdominal symptoms. If a study of these cases were attempted one would find it in a much larger number of cases than is generally supposed. Gonorrhœal metritis is the origin of all or almost all cases of salpingitis."

In the report of the Special Committee of the American

Medical Association in 1901, which was appointed for the collective investigation of statistics bearing upon the prevalence and dangers of gonorrhœa, the question, "What is the proportion of cases of pelvic inflammation coming under your care which were attributable to gonorrhœal infection?" was sent to all the leading gynecologists in this country and Europe.

To this question thirty-five of them replied, and from their replies it is evident that the widest difference of opinion exists as to the percentage of pelvic inflammations attributable to gonorrhœal infection.

Humiston finds that without including the doubtful cases as gonorrhœic, 90 per cent. of cases of inflammatory troubles are attributable to gonorrhœa, the infection being usually of a mixed character—gonococci with some one of the pyogenic micro-organisms. Price says that in over a thousand sections for pelvic inflammation 95 per cent. were attributable to gonorrhœa, and that in 95 per cent. of these the history was reliable and clear. Pozzi and Frederic give a percentage of 75.

A few of the estimates fall below 20 per cent., and the majority range from 23 to 90 per cent. The average of the entire statistics is 47 per cent. This was regarded as being rather below than beyond the actual percentage.

The exceedingly small percentage given by some of the reporters may have been due to a failure to make the bacteriological test for the gonococcus, or, perhaps, in some instances, to a lack of technical skill or to faulty methods in making these investigations. As Peterson says, "The more the disease is studied in women and the greater the improvements in bacteriology, the higher is to be found the per-

centage." It may be concluded that the percentage given varies with the conscientious study and the bacteriological skill of the reporter.

These statistics, be it understood, give no accurate indication of the prevalence of inflammatory disease of the female generative organs due to gonorrhœa, as the percentage is for the most part based on cases requiring operative interference. They take no cognizance of the large number of infected women who for various reasons are not subjected to operation and continue under the care of the family physician, dragging out a miserable existence of semi-invalidism, subject to painful or difficult menstruation, no longer able to walk freely, condemned to pass their days of suffering in a reclining position, and after years, it may be, of this suffering, worn out and desperate, apply to the surgeon, who, at the price of the sacrifice of the uterus, tubes, and ovaries, renders their existence possible in making them castrated women.

CHAPTER VII.

INFLUENCE OF GONORRHŒA UPON CONCEPTIONAL CAPACITY.

THE influence of gonococcic infection in woman upon her conceptional capacity and upon the course and termination of pregnancy is of special interest from the viewpoint of race perpetuation.

It has long been known that gonorrhœa exercises an inhibitory influence upon the procreative capacity of the woman. Noeggerath asserted that 50 per cent. of sterility in women was caused by gonorrhœa. Among 81 women affected by gonorrhœa, 49 were absolutely sterile; the remaining 32 women had borne only 39 children. Neisser declares that more than 45 per cent. of the involuntarily childless marriages and limitation of the number of children is due to gonorrhœa and its sequelæ in man and woman. Lier-Ascher found out of 227 women 121 were sterile because of gonorrhœa. Kehren found in 96 sterile marriages 30 per cent. were due to absence of spermatozoa in the husband, while in 45 per cent. there were perimetric exudations or other complications caused by gonorrhœa. Gruenwald, Kammerer, and Chrolak report 53 per cent., 83 per cent., and 40 per cent. of endometritis, mesometritis, and perimetritis—all of gonorrhœal origin as causes of sterility in the female, while Williams insists that 73 per cent. of all abortions are due to endometritis of the cervix and body of the uterus.

In the explanation of the pathogenesis of sterility much importance was formerly attached to changes in the uterine mucous membrane which rendered it inapt for the germination of the ovum. These pathological modifications of the endometrium are now recognized as of subsidiary importance in the prevention of conception.

A woman with gonorrhœa of the cervix may readily conceive; conception may take place even when the gonorrhœa is florid, with a profuse purulent discharge. Fecundation may take place even when the uterine mucosa is infected. Ozenne reports three successive pregnancies occurring in a woman with chronic metritis, the gonorrhœal nature of which was attested by bacteriological demonstration and the occurrence of ophthalmia in the children.

Gonorrhœal salpingitis does not necessarily inhibit conception, unless the channel of communication through the ostium uterinum is closed. Brothers reports two cases of women with pus tubes (bilateral salpingitis), the husband at the time suffering from gonorrhœa, who gave birth to several children.

In the public hospitals of Leipzig, Vienna, Heidelberg, Breslau, and other Continental cities it was found that a proportion varying from 20 to 25 per cent. of the pregnant women were gonorrhœic. The proportion varied according to the social condition and profession of the women.

The production of sterility in the female, as in the male, admits of a purely mechanical explanation. It is caused by the blocking up or deviation of the channels of communication between the ovary and the uterine receptacle of the ovum. This may result from stenosis or imperviousness of the oviducts, or the dislocation of the normal anatomical

relations between the uterus and its annexes from adhesions, displacements, etc. Before these profound alterations in the normal relations of the parts take place the gonorrhœal woman may fully conserve her conceptional capacity.

Unfortunately in the majority of cases, the first pregnancy terminating either in abortion or accouchement, opens the gates to the infection which may have been long installed in the external genital canal, the cervix, or uterus, and permits its ascension to the tubes, ovaries, and peritoneum, with the production of those changes which constitute a mechanical obstacle to the passage of the ovum. These changes are, as a rule, permanent and irremediable.

It thus happens that the aptitude of a gonorrhœic woman for conception is often extinguished by the first pregnancy, the one child representing the sum total of her productive energy. The sterility of a gonorrhœic woman is thus relative rather than absolute; it is, in the expressive German phrase, *ein kinde sterilität*—a one-child sterility.

INFLUENCE OF GONORRHŒA UPON THE COURSE AND TERMINATION OF PREGNANCY. The greater number of authorities who have investigated this subject concur in the opinion that gonorrhœa exercises a pernicious influence upon the course and results of pregnancy. Saenger contended that the abortive influence of gonorrhœa was quite as pronounced as that of syphilis. While this statement is perhaps overdrawn, yet clinical evidence shows most conclusively that there is an abnormal frequency of abortions among gonorrhœal women who have become pregnant. Noeggerath found that of 53 women who became pregnant in the course of gonorrhœal infection, 19 aborted.

Fruhinsholz found that in 101 pregnancies occurring in

gonorrhœic women, 71 went to full term, 23 terminated in abortion, 7 by a premature accouchement.

In another series of cases the tabulated results of 201 pregnancies complicated by gonorrhœa were as follows: 161 went to full term, 36 terminated by a premature accouchement, 4 terminated in abortion.

He reports a number of observations in detail in which the presence of the gonococci was demonstrated in the decidual placental débris, furnishing presumptive proof at least that it was the direct agent of the abortion. Winckel thinks that the gonococci ascend during the course of pregnancy and may produce erosions and rupture of the membranes. Many other authorities might be quoted showing that numerous abortions are due to gonorrhœal endometritis of the cervix and body of the uterus, and that gonorrhœal infection of the tubes and ovaries is the most prolific of all causes of sterility.

EXTRA-UTERINE PREGNANCY.

Gonorrhœal salpingitis plays an important rôle in the etiology of extra-uterine pregnancy. While the changes wrought by gonorrhœal inflammation in the annexial organs may not be sufficient to render the tubes entirely impervious, yet there may occur modifications in the epithelium of the tubes which arrest the descent of the ovum. Instead of fecundation and attachment of the ovum taking place in the normal bed of the uterine cavity, the impregnated ovum is arrested in its course and becomes adherent to the ovarian or tubal wall, and ovarian or tubal pregnancy is thus constituted.

M. Paul Petit says: "If this nuptial microbe, apparently benign, is sufficiently attenuated to not produce peritonitis, to not shut the tube at either of its ends (closure fatal for the race, but salutary for the woman); if, nevertheless, it happens that its delicate cells have lost their vibratile cilia charged to assure the advance of the fecundated egg, this is arrested in the channel through which it cannot pass, and, notwithstanding the heroic efforts of nature to produce a compensatory hypertrophy, the drama still proceeds; in the place of becoming enfeebled, the virulence of the microbe becomes cataclysmic; extra-uterine pregnancy, much more common than is usually supposed, is constituted; the infant dreamed of, still in its embryonic state, has become for its mother a *malignant tumor*, and if it does not kill her suddenly by internal hemorrhage when in apparent perfect health, which is fortunately quite rare, too often it offers her to the reparatory knife of the surgeon, and, in the more fortunate cases, immobilizes her for many months on a bed of suffering."

STERILITY.

The bearing of these observations upon the question of the low fecundity of married women is obvious. In this country the question of the low birth rate has assumed the importance of a national problem which has engaged the thoughtful attention and study of some of our most distinguished educators, sociologists, and statesmen. Its designation as "race suicide" would favor the assumption that the low birth rate is in all cases voluntary and independent of physical causes relating to the health or productive capacity of the married partners. There is ample reason for believing

however, that in a large proportion of cases the low birth rate is not a result of choice but of incapacity. In this country the information derived from the Census Bureau Reports is worthless as a basis for the appreciation of this question, as they do not give the proportion of sterile marriages to the whole number of marriages or to the general birth rate or fecundity of the population. In certain European countries, where the statistics are compiled with more accuracy and with special reference to certain economic interests which are ignored by our Census Bureau, it has been found that the proportion of sterile marriages is about one in eleven.

The census report of 1900 has not yet furnished data as to the conjugal condition of the population. The census of 1890 gives thirty-two million married people, which would represent sixteen million marriages; at least one out of every seven is sterile. In different parts of this country the proportion is one in four or one in five.

No one knows better than the author that the proportion of sterile marriages due to gonorrhœa is an unknown and unknowable quantity; that it is impossible to present figures that aim even at approximate accuracy; but, from the mere statement of the fact that there is such a vast amount of sterility, and that gonorrhœa is a common and most efficient cause, we can but conclude that the proportion due to this factor must be considerable.

The report of the Committee of the American Medical Association, above referred to, in regard to the occurrence of sterility as a result of gonorrhœal infection in women is somewhat inconclusive. The majority of reporters declined to express an opinion. Humiston and Prentzman say that sterility resulted in every case in which the tubes and ovaries

were attacked, and Czerny believes that certainly in one-half of the cases the sterility is to be traced to the husband's gonorrhœa.

There are so many pathogenic causes of a local or constitutional nature assigned as the cause of sterility, so much artificial sterility in which the marriage is childless by the choice of the parties conjoined, who take precautions to frustrate or defeat nature by avoiding pregnancy, that it is impossible to determine whether the sterility is from incapacity or from choice. In looking over the statistics of the birth rate in this country, we are impressed with the large percentage of marriages in which one child represents the total fecundity. Now, this is most significant in view of the fact that this is precisely the form of sterility for which gonorrhœa is directly responsible, viz., one-child sterility.

Abstraction made of every other possible factor of sterility and minimizing gonorrhœa as a predisposing agent to the lowest possible degree, yet there must remain a vast contingent of sterile marriages which are caused directly and solely by gonorrhœal infection.

CHAPTER VIII.

RISKS TO THE OFFSPRING.

OPHTHALMIA NEONATORUM.

THE social dangers which follow the introduction of gonorrhœa into marriage are not limited to its effect upon the health or life of the mother, nor yet to its inhibitory influence upon her conceptional capacity, but are manifested still further in the infective risks the mother herself conveys to her offspring.

In the vicious circle created by the process of parturition in the gonorrhœal woman the being she brings into the world is not only the innocent occasion of her pelvic accidents, but in turn becomes the recipient of the germs of the maternal disease, which may cause irreparable injury to one of the most precious organs of special sense—the eye.

The child in its passage through the maternal parts is compelled to undergo a veritable baptism of virulence. In the course of its passage the face of the child, and especially the eyes, are liable to be soiled with the uterine, vaginal, and vulvar liquids containing gonococci. The opening of the eyes of the infant, occurring as a rule when the child comes into the world, permits the penetration of the secretions into the conjunctival sac. The gonococci find in the delicate mucosa of the eyes a favorable soil for inoculation. The prolonged sojourn of the infant in the lower strait also favors

this inoculation. In primiparæ, in whom the process of parturition is prolonged, the infant is more apt to contract contagion. After birth the infectious secretion may be carried into the eyes through the intermediary of sponges, wash-cloths, or by the fingers of the accoucheur or nurse. When one eye remains uninfected, it may be inoculated with the purulent secretion of the other.

GRAVITY. It is estimated that from 10 to 30 per cent. of all blindness is caused by gonorrhœic infection. Of all causes of blindness, purulent conjunctivitis is the most powerful factor. According to Neisser there are in Germany at the present time 30,000 blind persons whose loss of sight is due to gonorrhœal ophthalmia. In many institutions for the blind no fewer than 60 per cent. of the inmates have lost their sight from gonorrhœal infection. In the institutions of Paris the percentage is estimated at 46, Jullien says 80 per cent.; in Switzerland, 20; in Breslau, 13; in this country, from 25 to 50.

FREQUENCY. In the report of the Committee of Seven, which records 1941 cases of gonorrhœa in women occurring in private practice in this city in one year, there were found 265 children with purulent ophthalmia. In the same year there were found in one of the eye hospitals of this city 136 cases of purulent ophthalmia.

In maternity hospitals the frequency of this accident has been reduced by the employment in women known to be suffering from gonorrhœa of strict antiseptic prophylactic measures, such as vaginal douches, etc., up to the moment of accouchement.

Although purulent ophthalmia of the newborn has been largely shorn of its horror by the introduction of the Credé

method, yet even now many children suffer the lifelong misfortune of deprivation of sight from maternal infection during the process of parturition. At the present day in Germany gonorrhœa causes each year about 600 cases of blindness in the newborn. It is said that of the blind population of Switzerland one in every five is due to purulent conjunctivitis.

Unfortunately, when gonorrhœa is localized in the cervix uteri clinical evidence and bacteriological proof of its existence may be exceedingly difficult or impossible. The occurrence of purulent ophthalmia in the newborn may be accepted as proof positive of the infection of the mother.

The symptomatology of purulent conjunctivitis is too familiar to require description. The chief danger, so far as the effect upon the visual function is concerned, resides in the corneal complications and their consequences. If treatment is instituted before the cornea becomes seriously implicated, the results are always more favorable.

Horner observed 161 cases of ophthalmia neonatorum, 53 of which were brought to him after the cessation of the active inflammatory process for corneal lesions more or less grave; of these 53, 14 were completely blind, 25 were partially blind, and in 14 there were corneal opacities which impaired vision. In the remaining 108 cases which were brought to him in active evolution, 40, or 37 per cent., presented corneal lesions before treatment, and three during treatment. He observed that the greater number of patients in whom the cornea was attacked suffered from a more or less complete diminution of visual capacity.

Hirschberg, in 200 cases of gonorrhœal ophthalmia, found that 53, or 27 per cent., suffered from initial corneal lesions;

6 of these terminated in complete blindness. In 378 cases of purulent conjunctivitis treated by Hein, 317 were cured completely, and 61 had permanent lesions with impaired vision. Eperon, in 161 cases occurring in private practice, had only 11 bad results. Of these 11, 7 presented, when first seen, grave and irreparable lesions of the cornea, most of which were produced by a too active treatment with caustic solutions.

The dangers of purulent conjunctivitis from maternal infection are not limited to the child. Nothing is more infectious than ophthalmia neonatorum. It often happens that the attendants, the nurse, or the members of the family are infected, and it is to be observed that while the infection may be comparatively benign in the infant and yield readily to the Credé method, with complete conservation of the integrity of the sight, the infection transmitted to the attendants most often results in a virulent inflammation which may entirely destroy the eyes. It is probable that the infection of the eyes of the child during confinement is in many cases less active; the inoculated pus may be attenuated by the fluids with which it is mingled. Oftentimes it is the pus of a chronic metritis which possesses only a modified virulence. When transferred to the more favorable soil of the conjunctival membrane of the child it acquires an exalted virulence, and becomes capable, when again transferred to a new medium, of determining the highest grade of inflammation. Gonorrhœal conjunctivitis of the adult may terminate in perforation, with destruction of vision, or it may lapse into a chronic stage.

The Credé method of treating ophthalmia neonatorum must be regarded as one of the most valuable acquisitions

to modern therapy, since, through the introduction of this prophylactic measure, the destructive effects of the gonococcus upon the eyes of the newborn have been materially reduced. On account of the pain and irritation caused by the 2 per cent. solution of silver nitrate and its caustic, penetrating action, there is a tendency on the part of ophthalmologists to substitute a milder solution of the silver nitrate or one of the silver salts, such as protargol, argyrol, or argamentine. The use of a few drops of a 10 per cent. solution of argyrol is claimed to be an infallible preventive, which is entirely free from the irritating effects caused by the silver nitrate.

CHAPTER IX.

DANGERS TO THE ENTOURAGE.

VULVOVAGINITIS OF YOUNG GIRLS.

ANOTHER danger introduced into family and social life by gonorrhœa is caused by a certain class of inoculations to which the term gonorrhœa insontium applies with special fitness.

One of the characteristics of gonorrhœa is its susceptibility of being communicated by mediate contagion. No fact is better established than that coitus is not essential to infection. The numerous facts of experimental inoculation show conclusively that the virus of gonorrhœa may be transferred by means of any indifferent object upon which it has been deposited and inoculated when brought into contact with a mucous surface susceptible to its action. Even before the discovery of the gonococcus it was known that the pus of gonorrhœa might be isolated and collected, or, when accidentally adherent to any foreign body, might be unconsciously inoculated. Numerous well-authenticated cases of water-closet infection have been recorded. Rossolimos cites cases in which it was derived from the night-vase, towels, etc. The common use of vaginal douche tubes may be the cause of gonorrhœal transmission; the fingers, thermometers, towels, sponges, etc., may be the medium of transference of the virus. The period during which the dried pus deposited

on a foreign body conserves its virulence is not absolutely determined.

It is evident, therefore, that a case of gonorrhœa in a family may be the source of multiple contagions. Of most interest in this connection is the class of contagions which, through their habitual localization, have received the name of vulvovaginitis. The innocent victims of this form of contagion are usually children from two to six years of age. It may be present in the newborn or at any age below puberty.

FREQUENCY. There are no statistics available from which we can estimate the frequency of this accident; undoubtedly it is much larger than is commonly supposed. In the report of the Committee of Seven there were found 218 cases of vulvovaginitis in private practice in this city among 1941 cases of gonorrhœa in women.

While it is admitted that not all the cases of purulent discharge from the genitals of young girls are of gonorrhœal origin, yet the other factors, the irritation of pin-worms, uncleanliness, certain diathetic states, attempted violation, etc., play an etiological rôle quite insignificant in comparison with the gonococcus.

In this connection it may be stated that the vulvovaginitis of young girls has most important medicolegal relations. Formerly these cases were almost universally attributed to violation. The assumption that any purulent discharge from the genital mucous membrane of a young girl is necessarily the result of criminal intercourse has often led to the unjust accusation and punishment of innocent persons for attempted violation. One knows the facility with which children are disposed to accuse and lie, especially if they have bad habits

to conceal. The physician should always be exceedingly reserved in giving an opinion in such cases, as the suggestion that a purulent discharge in a young girl was caused by violation might lead to the gravest consequences. We now recognize that gonorrhœa in children is vastly more often due to accidental mediate transmission than to attempted intercourse.

Our knowledge of the gonorrhœic origin of vulvovaginitis is essentially a modern acquisition. It is only within the last ten or fifteen years, since the methods of distinguishing between simple and specific inflammation have been more generally understood and employed, that vulvovaginitis is recognized as a true gonorrhœal infection. One has only to examine our text-books on diseases of children prior to 1890 in order to appreciate this fact. Koplik (1893) did much to disseminate in this country a knowledge of the specific origin of this disease and the comparative frequency of its occurrence.

Calven Brach examined 21 children with vulvovaginitis; in 20 he found the gonococcus; 7 had been violated; 3 had contracted the disease at the hospital; 10 others had shared the bed of the mother suffering from gonorrhœa, or there lived in the same family some person affected with gonorrhœa. Cassel, in the examination of 30 girls, aged from seven months to eleven years, found gonorrhœa in 24. In 6 the inflammation was of a simple character. Fischer found the gonococcus in 50 out of 59 cases. Vaillon and Halle found gonorrhœa in 25 cases out of 27.

ETIOLOGY. Infection of the child may occur (1) during the process of parturition; (2) from inoculative contact of the genitals of the child with a person suffering from gonor-

rhœa; or (3) from mediate contagion by means of various articles upon which the virus may have been deposited.

Inoculation may take place from contact of the vulva of the child with uterine secretions mixed with pus containing gonococci. A breech presentation favors the ready penetration of the gonococci into the genital tract. This is more apt to be the case when the labor is prolonged.

In the large majority of cases the patient has had actual contact with persons suffering from gonorrhœa. It may be from sleeping in the same bed with the father or mother; in other cases with a brother, sister, or nurse who is suffering from the infection. Spaeth found that in 90 per cent. of all cases of specific vulvovaginitis in children coming under his notice the mothers suffered from leucorrhœa or uterine discharge. These family epidemics are very frequent. The youngest child is not usually the one first contaminated. The comparative infrequency of this accident before the second year, as a rule, is explained by the fact that this period corresponds to the time during which the child occupies the cradle alone.

In other cases the contagion is conveyed mediately by the use of sponges, towels, or by the use of a common bath. There are numerous cases of mediate contagion recorded from vulvovaginitis from the use of pencils or other articles soiled with the discharge. In one case a little girl who had received in the eye, while playing, the finger of one of her playmates who was afflicted with vulvovaginitis, suffered from a characteristic purulent conjunctivitis in which gonococci were abundantly found.

Epidemics of specific vulvovaginitis in children's hospitals have been recorded by numerous observers. In almost

all cases the origin of the epidemic could be traced to a child who had entered the hospital with a specific vulvovaginitis.

Epidemics of vulvovaginitis have been observed from the common use of public baths by children. Suchard reports a remarkable epidemic of vulvovaginitis in young girls at Lavey, which continued for twelve or fifteen days until the use of the public bath was forbidden. Another remarkable epidemic was reported by Skutch as occurring in the city of Posen, where 236 children, whose ages varied from six to fourteen years,⁵ developed in the course of a fortnight vulvovaginitis of gonorrhœal origin which was proved to be due to the use of the public bath.

LOCALIZATION. The term vulvovaginitis does not strictly indicate the exclusive localization of the infection. While the vulva is primarily affected, the infection may invade not only the vagina, but the urethra and cervix. Contrary to what is observed in the adult, Bartholini's glands are rarely the seat of the infection. The vagina of the child, however, is quite susceptible to the action of the gonococcus, but the inflammation is, as a rule, of comparatively short duration. Just as in the adult, the gonorrhœal process tends to localize itself in the urethra or in the cervical neck.

While the urethra is also frequently the seat of the process, it is, however, not so persistent, and gives rise to no serious symptoms.

The cervical localization of the gonorrhœa of young girls is now recognized as much more common than was formerly supposed. In the majority of cases in which the duration of the inflammatory process has been prolonged, the mucosa of the cervix will be found congested and inflamed, and pus is seen to exude from the cervical opening. Koplik found

that in all the cases examined by himself with a small urethral speculum, pus escaped from the external os. The participation of the uterine mucosa in the inflammatory process may be considered quite habitual.

The extension of the infection to the body of the uterus, and the consequent evolution of pelviperitonitis, though comparatively rare, is no less well authenticated. There are numerous cases in which the tubes, ovaries, and peritoneum were found to be involved in the pathological process. Carrier suggests that many cases of undeveloped uteri, resulting in dysmenorrhœa and sterility, may be due to gonorrhœal infection in infancy. It is also probable that many cases of metritis and salpingitis occurring in virgins and young women at the age of puberty or later, and the origin of which was indeterminate, may be ascribed to an antecedent vulvovaginitis which had been overlooked or forgotten.

Specific infectious vulvovaginitis and that due to simple causes have certain clinical characteristics in common—redness, swelling, and purulent discharge. They can, as a rule, be distinguished by clinical evidence; the results of treatment also serve to differentiate them. In gonorrhœal vulvovaginitis the discharge is thick, greenish-yellow, and abundant. In simple vulvovaginitis the discharge is thin, serous, viscous, or yellowish-gray. The latter has a tendency to clear up promptly under the influence of cleanliness and simple aseptic washes. If these simple means do not promptly succeed in curing the trouble, further attempts should be made to ascertain its possible specific nature. The gonococcus may be found in almost all cases if examination is made at a favorable moment.

It is worthy of note that gonorrhœal vulvovaginitis may

be the source of serious autoinfection, the patient transferring the gonorrhœal virus from the vulva to the eyes. The tendency of the child to carry the hand to the genital parts explains the frequent transference of the infection. Gonorrhœal ophthalmia is recognized as a most frequent complication of vulvovaginitis. Ceseri reports certain cases of this kind out of 26 cases of vulvovaginitis. Weidmark has observed 19 cases of this complication. Gonorrhœal rheumatism is also a frequent complication of vulvovaginitis. Beclerc has reported several cases which demonstrate the coincident occurrence of gonorrhœal rheumatism and vulvovaginitis in infants. The comparative frequency of this complication is not, however, possible to determine.

CHAPTER X.

BEFORE MARRIAGE.

ACUTE GONORRHŒA.

It is seldom that a man with acute gonorrhœa consults a physician in regard to his early marriage. Since he cannot fail to be impressed with the knowledge of its contagiousness, his avowal of his intention of getting married under such conditions would be the avowal of a monstrously base project.

A man with acute gonorrhœa may contemplate marriage in the future, or may be already engaged to be married without a date having been definitely fixed, and asks the advice of a physician as to the time required to effect a cure. In such cases the physician should always bear in mind the French proverb, *Une chaudepisse commence; Dieu sait quand elle finira.*

Unfortunately, the advances in our therapeutics have not kept pace with those of pathology. The response to the question, "How soon can I be cured?" by the most skilful specialist of to-day would not be nearly so favorable or reassuring as that which would have been given twenty-five or thirty years ago. Not that gonorrhœa is less skilfully treated at the present day, but what constitutes our conception of cure is altogether different from that comprehended by our fathers.

The prognosis of gonorrhœa is always indefinite. The

most competent specialist cannot assign the absolute limit of its duration. As a matter of fact, the period necessary to assure the cure of gonorrhœa does not admit of precise mathematical formulation. The virulence of the infection, the previously healthy or damaged condition of the urethra, the constitutional peculiarities of the individual, and the character of the treatment employed, all contribute to advance or defer the cure. In general it may be said that a virgin gonorrhœa always holds out a more favorable prognosis than a recurrent attack. If, as formerly supposed, a man were marriageable as soon as the acute discharge has ceased, the prognosis would be most reassuring. The physician may safely say that in from four to six weeks the discharge should practically cease, provided the patient gives an intelligent co-operation in the matter of food, drink, exercise, and faithfulness in carrying out the treatment; but he would be a dangerously unwise physician who would guarantee a cure within that time. The patient should submit to a period of observation for several weeks longer in order to be sure of the definiteness of the cure. The physician must take account of possible complications which cannot be foreseen or provided against in any individual case—complications affecting the prostate, the epididymis, the bladder, the seminal vesicles, etc.—and which sometimes persist with an invincible tenacity. In view of these possible complications, the physician consulted by a patient with gonorrhœa who wishes a professional sanction to his marriage should demand a period on an average of six months, in view of the fact that, despite the most intelligent and faithful treatment, many gonorrhœas persist even beyond that period.

In the case of a recurrent attack, where the urethral mucous membrane has been damaged by previous disease, with changes in the epithelium, stricture, or a history of posterior complications, it is better to promise nothing in the way of time limit. You can simply assure the patient that these cases are undoubtedly curable within a reasonable time and that his should prove no exception to the rule.

It sometimes happens, however, that a gonorrhœa may be contracted a few days before the date of a projected marriage under the following circumstances:

It is well known that among a certain class the farewell to bachelor life involves a round of festivities including dining and wining. Under the influence of the latter, practices the most reprehensible may attend what is termed the "farewell to bachelor life." Not infrequently *les adieux* include a farewell visit to a female friend, with the result that the germs of gonorrhœa are entrapped. After a short period of incubation the expectant bridegroom finds himself possessed with an acute purulent discharge and all the unmistakable symptoms of a virulent urethritis. The prospect of marching up to the altar with a urethra full of pus stares him in the face. Thoroughly frightened, he rushes to the physician and demands to be cured at any cost before the day appointed for his marriage, imagining that the physician holds in reserve the fabulous secret of curing gonorrhœa in a few days.

The physician protests that this is impossible, that the marriage cannot be considered, and that unless it is postponed he will most certainly infect the woman he marries. The usual reply is that the arrangements are all made for the ceremony, that it is too late to retract, and that the

marriage must go on. After explaining to him in detail the frightful consequences that may result from the infection of his wife, her possible lifelong invalidism, the consequent sterility, the danger to her life, which may be purchased only at the sacrifice of her reproductive organs, the possible risk of his infidelity and baseness being disclosed; if, after all this, you find him too weak and cowardly, too lacking in courage to take the only step an honest man can take, that is, retreat, what are you to do?

The line of conduct to be pursued by the physician in such a case is differently viewed by writers on this subject. Many recommend the physician to cut short the interview, and thus avoid even the appearance of complicity in a base action. Others believe in the utility of our intervention, and urge the exercise of such protective function as the physician can employ in guarding against the inevitable evil (1) by the endeavor to cut short the disease by abortive treatment; (2) the protection of the woman by the avoidance of all relations until the disease is cured, or, if this prophylactic measure cannot be realized, the use of preventives of disease in the act of coitus.

The physician knows only too well that most of these measures commonly fail. While it may be within the bounds of possibility to abort the disease by the use of strong injections of nitrate of silver (20 to 25 grains to the ounce), the percentage of successes is infinitesimally small, and the treatment is likely to prove only a snare and a delusion. Successful abortion of gonorrhœa is possible only when the patient presents himself within twelve to twenty-four hours, after the first signs of an opaline discharge appear. The infection is then superficial and confined to the surface of the

epithelium, but the gonococci rapidly penetrate between the epithelial cells and become lodged in the submucous tissue and lacunæ of the urethra, and are thus inaccessible to the bactericidal agent. Fortunately, the success, or more probably the failure, of this plan of treatment will be evident within a very short period. When the failure is evident and the infection cannot be jugulated, irrigations of the urethra with solutions of permanganate promise the quickest results in freeing the canal of the gonococci. There is still a possibility that the institution of this method of treatment may cleanse the urethra within a comparatively short period, but they cannot be relied upon. The question of the wisdom of recommending individual prophylactic measures will be considered in the section on gonorrhœa after marriage.

CHAPTER XI.

CHRONIC OR LATENT GONORRHŒA.

IN the vast majority of cases the gonorrhœic who consults a physician in regard to his marriage is suffering from chronic or latent gonorrhœa. It may be that he has had a number of recurrent attacks of running which he ascribes to a fresh infection, but which are more likely to have been relapses of the original gonorrhœa, which has never been cured. Such patients will usually give a history of repeated attacks of urethral discharge, coming on after drinking or sexual indulgence, which dry up apparently, with or without treatment, followed by an occasional drop in the morning, stickiness, or gluing of the lips of the urethra, sometimes an exemption of any signs of discharge for weeks at a time. The patients think little of these occasional exacerbations, as they are attended by none of the acute symptoms, such as pain, chordee, or purulent discharge. Such are the type of men who usually boast of the number of attacks they have had, often assuring their friends that they have had a dozen "doses," and that they amount to nothing.

It is evident that in these cases the susceptibility of the urethral mucous membrane to the irritant action of the gonococci has been exhausted, and the latter require some special stimulus or excitation to start them into activity. Modern science has taught us that the gonococcus is endowed with remarkable longevity, that it may remain dormant or inactive

for a long period, slowly proliferating or merely hibernating for years; that in this apparently inert state there is a conservation of its virulent principle, ready to break forth into explosive violence when the conditions favorable to its germination are realized. Clinical observation shows that in this latent or quiescent state these germs may be innocuous to a prostitute, the susceptibility of whose tissues to irritant action has been exhausted by habituation, and are therefore unfavorable to the propagation of the germs, but when transplanted to the mucous membrane virgin of previous disease these latent germs find a favorable culture field and may proliferate luxuriantly.

The clinical behavior of these infections is quite in consonance with what is observed by bacteriologists in the artificial cultivation of gonorrhœal organisms. Cultures which are apparently lifeless or about to perish may be revived by a fresh supply of the culture medium. Nothing is better proved than that these pathogenic microbes, although attenuated and apparently extinct in a worn-out soil, become endowed with an exaltation of virulence upon being transferred to new tissues.

In addition, there are numerous organisms in the female genital tract which, although ordinarily innocuous and inoffensive, may be stirred into pathogenic activity by the presence of the gonococcus. It is possible that these diverse organisms co-operate with the gonococcus in producing infections of the female genital organs.

When the physician is called upon to advise a patient with chronic or latent gonorrhœa as to his aptitude for marriage, the greatest difficulty will be found in convincing him that he is the bearer of a dangerous contagion. This statement

is opposed to the traditional view with which he has been imbued in regard to the innocuousness of a gleet discharge.

He may tell you that he has had frequent intercourse with women since he has been in this condition, and has never heard of their being infected; that numbers of his friends have married under similar conditions without any mishap. He cannot believe that a disease which has practically disappeared or only shows itself in the morning, and perhaps then only occasionally, which gives him no inconvenience and does not affect his general health, can prove so terrible in its transmission. He does not credit the physician's forecast of the disastrous results of his proposed marriage, and yet this is precisely the class of cases that are the great source of contagion in married life. In the vast majority of cases the gonorrhœa of the married woman has its origin in a chronic gonorrhœa of the husband.

The usual history of gonorrhœic infections in married life is about as follows: A man who has had one or more attacks of gonorrhœa imagines himself cured. The discharge has ceased with a subsidence of all acute inflammatory symptoms. There may have been an occasional or even habitual gluing of the urethral orifice—possibly a drop of muco-pus in the morning. In many cases the condition is absolutely symptomless, subjectively and objectively. He may marry without or even with the sanction of the physician who, after a superficial examination, or relying solely upon the patient's statement of his condition, gives his professional permit. The man marries, and does not hesitate to have frequent sexual intercourse.

Shortly after marriage, it may be at the first contact, his wife receives the germs of the contagion that he did not

know existed, or it may be after the germs have been stirred into activity by the stimulation of repeated coitus. The infection may be localized in the external genitalia, in the urethra, or vulvovaginal glands, and give rise to symptoms of pain, swelling, and purulent discharge. The inflammatory symptoms may be of only moderate severity and attributed to the defloration; in other cases they are more pronounced, and may be present with all the symptoms of a virulent urethritis or vaginitis. In the large majority of cases the primary localization of gonococcic infection in married women is the cervix uteri. In this localization it remains for a time latent, and rarely gives rise to any suspicions of its character.

In any case the physician is rarely consulted and appropriate treatment given, this often from a feeling of modesty inherent in women which prompts them to conceal affections of the genital organs. The result is that the affection remains neglected and untreated until further developments render a physician's aid imperative. So true is this that just as in syphilis the physician rarely sees the initial lesion in women or even obtains a clear history of its existence, so in gonorrhœa he can seldom obtain an unequivocal history of the primary infection.

The infection may remain localized for an indefinite period at the point where the gonococci are first deposited. There may be an extension downward through the vagina, the urethra, or external genitals, or, as is more frequently the case, there is an upward movement of the gonococci, invading the mucous membrane of the uterus and thence ascending to the tubes and ovaries and their peritoneal covering; in other words, there may be a descending or an ascending infection.

In spite of the benign character of the infection, it may

be of a type which compels a woman to seek medical advice, and to the experienced physician clearly reveal the malady of the husband.

In certain cases the infection may manifest itself by rapid invasion owing to the susceptibility of the virgin tissues. The gonococci rapidly penetrate the urethra, the neck of the uterus, the upper part of the genital tract; the Fallopian tubes become huge pockets of pus with or without implication of the peritoneum. One or two illustrative cases may be introduced to indicate such types of infection.

Garrigues reports the following: "I knew a girl in perfect health, of great beauty, of Junoesque proportions, combining muscular strength with regularity of features and graceful movements, possessing a most amiable disposition—in brief, a paragon of a wife to make a husband happy. She married a nice young man in a good business. It was a marriage based upon mutual affection and held out every prospect of a long and happy union. A week after her marriage she came to me with an abscess in one of Bartholini's glands and a profuse discharge from the uterus. She was under treatment for months. The abscess was opened and drained; the uterus was washed out daily with powerful germicides, curetted, and drained, and finally treated with electricity. During her menstrual period she was seized with violent pain in the lower part of the abdomen and had a temperature of 105° F. and a pulse of 140. Two days later a swelling appeared in the pouch of Douglas. In a few more days the swelling appeared three inches above the symphysis. An incision in the vagina gave exit to a large amount of pus. The peritonitic infection continued to spread, and laparotomy was performed. Some pus foci were opened, but the append-

ages were found so embedded in a mass formed by the uterus, the intestines, and newly-formed tissue that their removal was found impossible. Finally she died.

"In many similar cases the patients recovered for the time being, but went on leading a life of invalidism interrupted by more acute attacks of peritonitis. Some get well after having their ovaries and tubes removed. This, then, is what awaits these poor women—discharges, inflammations, a life full of suffering, capital operations, or death."

A case which came under the author's observation some years ago may be cited as illustrating the *foudroyante* character of gonococcic infection characterized by rapid invasion of the annexial organs. A young man whom I had treated several years previously for syphilis and discharged cured, came to me four years later, stating that he was to be married in a month, and wished to know whether there was any danger of infecting his wife or contaminating his children with syphilis. As he had had a thorough treatment and a long exemption from any accident, he was assured that he could marry with safety.

Just as he was leaving he remarked: "Oh, by the way, I have had a little gleety discharge for three or four years! I suppose that will make no difference in my marriage." He was assured that it might make a great difference. Examination showed that he had a couple of strictures, with abundant filaments in the urine containing gonococci. Upon my protesting to him that marriage in his present condition was impossible, he insisted that it must go on, that all arrangements were made, and that the marriage could not be postponed. It was then explained to him fully the probable and almost certain results of infection of

his wife, with its serious consequences; but it was evident that these statements were received with downright disbelief. He assured me that he had had frequent intercourse with women and knew that they had not been infected by him. He was deaf to expostulations and protests, and the only concession that could be procured from him was that he would use a protective and begin an energetic treatment as soon as possible after his marriage. The marriage took place at the time appointed.

A few weeks later he sent for me in great haste, saying that his wife was suffering horrible pain. Upon my visit I found a beautiful young woman doubled up with peritonitis, with a profuse purulent discharge from the urethra, neck of the uterus, and evidences of purulent salpingitis. She was desperately ill for some two or three weeks, and then got better. At his express insistence, she remained under my care for nearly a year. During that period she was an invalid, scarcely able to walk, spending most of the time on a sofa, and with each menstrual period there was a recurrent attack of suppurative inflammation of the annexa. He was finally persuaded to consult a gynecologist, but as both he and his wife were anxious to have children an operation was deferred. She was a confirmed invalid for three years, and finally had her ovaries removed. She is now in miserable health, and will probably remain a lifelong invalid.

Now, these cases are drawn from life. Such histories are common, so exceedingly common that every physician of experience meets with them in practice. The experience of all gynecologists is concurrent in the conclusion that infection of the wife by latent gonorrhœa in the husband

is most prolific source of illness in married women, often leading to invalidism, unsexing, or death.

In the majority of cases the clinical onset and course of gonorrhœal infection in women are, however, of a mild and more chronic character. The gonorrhœa remains latent. It may not reveal itself by any characteristic symptoms, and the woman may remain entirely ignorant that she is the subject of a serious affection. Often the sole symptom is a uterine catarrh which is regarded as a simple leucorrhœa. This discharge, like that of chronic gonorrhœa in men, may disappear for a time and then reappear, but with no tendency to a spontaneous cure. There is usually a more or less profuse purulent discharge immediately preceding menstruation, and the discharge usually increases after menstruation with a greater admixture of pus. The menstrual function is also apt to be more or less disordered.

The characteristic feature of uterine gonorrhœa is to develop insidiously, to cause neither at the time of infection nor for a long time subsequently any serious disorder of the uterine function. Very often pathological changes in the cervical neck occur, such as fungous granulations which bleed at the slightest touch. Similar granular patches may develop in the cavity of the uterus.

The danger of gonorrhœa in women is its susceptibility to rapid extension and to serious complications which occur suddenly; its serious significance depends not on what is, but what may be. Like the sword of Damocles hanging over her head, it constitutes an ever-present menace, liable to fall at any moment. The intervention of any exciting cause, such as sexual excess, fatiguing exercise, the congestion incidental to the menstrual period, and, particularly, pregnancy,

may change the whole situation. Especially after accouchement, as we have seen, there often supervenes an inflammation of the annexial organs and the development of pelvic peritonitis, the formation of tubal abscesses or peritoneal suppuration. The infected woman is thus exposed at any period of her life to the gravest accidents, to the most serious complications.

The existence of gonorrhœal salpingitis may be first revealed by the development of pelviperitonitis. Even after the pelviperitonitis passes into the subacute or chronic stage there is a constant tendency to exacerbations, with the production of acute painful symptoms at each menstrual period. These unfortunate women are constantly subject to these recrudescences, they become confirmed permanent invalids, spending their whole existence in a reclining position, awaiting with apprehension their suffering, which returns with each menstrual period.

Jullien says: "It is common to hear women who constantly suffer from uterine torture employ such words as these: 'When I was a young girl I was quite well. It is only since my marriage that I have become ill.' And every day this confidence, this plaintive refrain saddens the gynecologist. It is continual and inexorable. From the discolored and suffering faces we may guess a whole past of debility, and the *origin is always marriage*. The husbands have a quiet conscience. They go about their business or to their clubs, create fresh pleasures or new relations for themselves, and desert the mournful marriage bed. They can reckon on sympathy, for who does not pity them for having married wives with such bad health? We cannot fail to be struck when our patients make such remarks as the following: 'I

was married eight years after my first clap, and believed myself perfectly cured, when two months later I suffered from a slight running which soiled my shirt.' 'Was your wife ill?' 'Oh, no, she never knew anything about it, thank God!' 'But now?' 'Alas, doctor, I lost her! She died of puerperal fever after her first accouchement, the year that we were married.'"

CHAPTER XII.

DIAGNOSIS OF CHRONIC GONORRHŒA.

SINCE the gonococcus is the sole source of infection, and gonorrhœa can have no other origin, it is evident that the question whether the elements of contagion still exist in the urethra is of capital, predominating importance in deciding upon a man's fitness for marriage.

The determination of this question rests partly upon clinical evidence, but decisively upon bacteriological proof. It is necessary, first of all, to establish a correct diagnosis. When it is considered that the infective capacity of gonorrhœa may reside in a minute filament, scarcely visible, coming from the depths of the urethra, and that often its pathogenetic value can be determined only by the methods of the laboratory, we can better appreciate the difficulty which often attends the diagnosis. The elements upon which this diagnosis is based are the pathological secretions of the urethra, which appear in the form of a discharge or of filaments in the urine.

CLINICAL EVIDENCE. That mere clinical evidence alone is often unsatisfactory, misleading, and never completely decisive, may be judged from the fact that Ricord and his followers, who were most consummate clinicians, failed to recognize the distinction between virulent and simple urethritis and entirely ignored the existence of gonorrhœa in a latent form.

The macroscopical appearances of the pathological secretions do not suffice for a diagnosis. They may be considered as furnishing presumptive, although not positive, proof of the presence of gonorrhœa. Not every discharge coming from the urethra is of gonorrhœic origin; not all filaments found in the urine are necessarily pathological. In addition to the clinical evidence, there is also necessary bacteriological proof before we can determine the real character of the urethral secretions.

The differential diagnosis of gonorrhœa from simple urethritis due to various diathetic or local irritant causes is given with a sufficiency of detail in all text-books on venereal diseases, and will not be considered here.

DISCHARGE. The gonorrhœal discharge may vary in quantity and present a variety of forms. It may be a drop of pus, a gleet, mucoïd secretion, or it may not occur as a visible secretion, but only in quantity sufficient to agglutinate the lips of the urethra. It may appear only in the morning, intermittently, or it may occur through the day. In many chronic cases it is entirely absent for days and weeks at a time. Agglutination of the lips of the urethra in the form of a brownish pellicle or thin crust over the meatus may be the only manifestation. This discharge is often confounded with that of prostatorrhœa, spermato-cystitis, or urethrorrhœa. The differential diagnosis of these conditions is fully given in text-books.

FILAMENTS. It sometimes happens that there is no visible manifestation of the urethral discharge, and the only evidence of any morbid condition of the urethra apparent to the physician at the moment of examination is the presence of filaments or floating particles in the urine. These floating

particles are largely more in evidence in the first morning urine. They, however, change very quickly. When shaken, they rapidly disintegrate and disappear in a kind of cloudy sediment, and it is therefore desirable that the physician should examine for them when the urine is first passed in the morning or several hours' interval after the previous passage of urine.

The constant presence of these floating particles, possessing certain characteristics to be described, are suggestive of the continued existence of gonorrhœa, but they may persist after the gonococci have entirely disappeared from the urethra. They occur from other causes than the gonococcus, and they are by no means pathognomonic of the disease. From a clinical standpoint it is impossible to determine the significance of these shreds or floating particles as a source of possible contagion.

The difficulty of determining their precise etiological relation to gonorrhœa is complicated by the fact that gonorrhœal threads or *tripper jaden* coexist with floating particles which consist of normal mucous filaments, leucocytes, and other epithelial elements which are absolutely innocuous. They not only persist after the gonorrhœic elements have disappeared; but they may be present without antecedent gonorrhœal inflammation, or they may occur as a result of prostatorrhœa or seminal vesiculitis. While the presence of filaments in the urine does not constitute *per se* an absolute contraindication to marriage, abnormal products of a morbid condition, in the form of threads, flakes, and dots, are so invariably present in chronic gonorrhœa that they afford presumptive proof, at least, that the canal is not clear of gonococci. Although, as already stated, these various

concretions cannot be differentiated by the macroscopical examination alone, one familiar with their appearance may be able to judge, approximately at least, of their pathogenic character. They may be purulent, mucopurulent, or simply mucous.

The round or short, stumpy, heavy concretions which are composed chiefly of cellular elements, and rapidly sink or float about with a spiral but always descending motion, are more apt to be pathogenic, while the cottony concretions, often long and branched, consisting for the most part of mucus with few cellular elements, and which rapidly ascend to the top of the fluid, are more apt to be innocuous. But conclusions based upon the naked eye appearances are not to be trusted. The sole test of their pathogenic character is the presence or absence of gonococci as revealed by the microscope or cultures.

LOCALIZATION. In appreciating the question of a man's fitness for marriage it is not necessary to determine the localization of the inflammatory focus, whether in the anterior or posterior urethra. It was formerly thought that in the larger proportion of cases the disease was anteriorly located, but it has since been demonstrated that in probably from 75 to 90 per cent. of all cases of chronic gonorrhœa the posterior urethra is also infected, and often both the anterior and posterior urethra are the seat of the inflammatory disturbance. The physician is probably familiar with the means for determining the localization of the disease by the two-glass or three-glass test. The first glass, representing the flushing of the entire urethra, will usually be found to contain the pus as well as the exfoliated products of both anterior and posterior urethra. The second will be found

clear unless the products of the posterior urethra have flowed back into the bladder or unless it comes from disease of the bladder or upper portion of the urinary tract. It is a wrong inference that the presence of shreds in the first glass and not in the second indicates positively that the seat of the secretion is in the anterior urethra. The only reliable means for determining the immunity of the deep urethra is to wash out the anterior urethra by means of a long cannula with a back-jet action, the beak of which is introduced as far as the cut-off muscle, and the washing continued until the return current comes away in a clear, limpid flow without containing any shreds. The urine then passed will show whether the posterior urethra is involved. If the inflammation is confined to the anterior urethra the urine in both glasses will be clear. In chronic posterior urethritis the appearance of the urine is the same as though the anterior urethra had not been irrigated.

As already said, in differentiating anterior and posterior urethritis, little importance should be placed on the seat of the disease, except from the standpoint of prognosis and treatment. The essential point is to decide whether the gonococci still continue to exist, and this must be determined by microscopical investigation. It is to be borne in mind as a valuable differential point that the occurrence of the complications of orchitis, cystitis, and seminal vesiculitis furnish presumptive evidence of the invasion of the posterior urethra by the gonococci.

MICROSCOPICAL EVIDENCE. While clinical evidence will throw a good deal of light upon the subject, it is never absolutely decisive. The presence or absence of the gonococcus, as demonstrated by the microscope or by cultures,

is the only basis of decision in the class of cases under consideration. It is to be borne in mind, however, that the examination of the pathological secretions of the urethra under ordinary conditions may prove negative and yet not necessarily exclude the presence of the gonococcus. When, as it often occurs in practice, the clinical signs may be entirely absent and the gonococci few and sparse in number and lodged in the crypts or follicles of the urethra, the failure to find them is not proof of their complete disappearance. Before drawing definite conclusions it may be necessary to use provocative measures to bring them to the surface.

COLLECTING SPECIMEN FOR EXAMINATION. Various procedures have been recommended for collecting the specimen for examination. When the secretion at the orifice of the urethra is sufficient in quantity it may be taken up by a sterile platinum loop, placed on a cover-glass, moistened, if need be, with a drop of water, dried by passing through a flame, stained, and examined in the usual manner. Another method employed is to take the first flushings of the urethra passed in three or four ounces of urine, which may be centrifuged and the sediment examined. Guyon recommends *ramonage* for the collection of the specimen, that is, the introduction of a bulbous sound (*sonde exploratrice*), with which, by a rotary movement, any secretion in the urethra may be wiped off; upon withdrawal of the sound the pus upon the shoulder or face of the bulb may be removed for examination. Massage of the prostate and milking of the seminal vesicles may also be employed in collecting the specimen.

THE GONOCOCCUS. It is presumed that the physician is familiar with the morphological character of the gonococci,

their dimensions, mode of multiplication by fission, their characteristic grouping, their tinctorial reaction to aniline dyes, which they possess in common with other micrococci, and especially their property of being decolorized by Gram's method, which is distinctly characteristic of the gonococci and serves to differentiate them from other micro-organisms which they resemble.

One characteristic feature of the diplococcus of Neisser is that the groups may be situated partly within the pus and epithelial cells and partly between the cells. The assertion that only those contained within the cells are gonococci has been disproved; they may be intracellular or extracellular. When occurring within the cells, however, they are more characteristic in form and grouping. It would be foreign to our purpose to give in detail the technique of the mode of preparation and means of differentiation between the gonococci and other diplococci.

EXAMINATION OF FILAMENTS. If the filaments are abundant they can be fished out or caught up with the ordinary pipette, placed between two cover-glasses, stained, and examined. The results of this examination may show epithelial fragments and gonococci, or they may contain simply epithelium, mucus, occasional leucocytes, and perhaps other bacteria.

Even when the microscopical examination of the pathological secretions fails to reveal the presence of gonococci, we are not justified in positively declaring a patient free from gonorrhœa and safe for marriage. It is extremely difficult to pronounce positively upon the presence or absence of gonococci in chronic gonorrhœa. It is always safer to exercise a certain prudent reserve in authorizing a patient

to marry as long as there persists any evidence of pus in the discharge or filaments in the first flow of urine. In many cases the micrococci lie deep in the follicular crypts and accessory glands of the urethra, and may not be present in the exfoliated products which appear as floating particles in the urine.

Most authorities assert that it is prudent and sometimes even necessary to excite a urethral discharge by the use of strong injections of silver nitrate (2 to 4 per cent.) or a sublimate solution (1 : 10,000). The irritating effect of these injections may be increased by the use of beer or other malt liquors, or any form of alcoholic drink, and sometimes by the ingestion of crawfish or stimulating articles of food. The irritation developed gives rise to separation and desquamation of the upper layer of cells, which carry away with them the adherent micro-organisms, while the gonococci which proliferate in the tissues appear in increased numbers in the purulent secretion thus developed. Even after the employment of provocative measures, we cannot say positively in every instance that gonococci may not lurk in the accessory glands. The difficulty does not lie in our inability to differentiate the gonococcus from other microbes, but consists in the fact that negative results of the most careful microscopical examination do not always authorize us to say that they are absent. We may not find gonococci at one or several examinations, not because they are absent, but because they have not been brought to the surface.

CULTURES. There remains another process of examination, the results of which are claimed by many authorities to be more decisive, namely, cultures. It has been shown

that when the pus or threads are collected in sterilized tubes the contents of these tubes may be sown on plates, cultivated, and isolated, even after a considerable period has elapsed. Heiman, who has made exhaustive studies with the different culture media, finds that chest serum constitutes the best culture medium for the gonococcus. For the purpose of culture it is not necessary to employ pus rich in gonococci to obtain positive results. If the culture is positive, there can be no mistake. Unfortunately, if the culture is negative, we are not justified in an equally positive opinion, since, when gonococci are very few in the urethra, they may be entirely absent in the minute quantity employed in sowing. It thus happens that the culture may not succeed even when gonococci are still present in the urethra. It is a means of diagnosis which admits of many chances of failure, which demands for its employment an equipment so varied that it can only be employed by experts skilled in bacteriology, and it therefore cannot be utilized in general practice.

As a result, the majority of authorities rely upon microscopical examination for the determination of the presence or absence of gonococci.

PROGNOSIS. The gonorrhœal patient who applies to the physician for advice as to the safety of his marriage is not satisfied when the gonococci have been demonstrated. The patient does not wish simply to receive this unwelcome verification of his fears that he is unfit to marry; he will demand, what is the same thing to him, when he may marry; how long it will take to get rid of the disease.

The prognosis of chronic gonorrhœa is good as far as ultimate cure is concerned. It is exceedingly uncertain so far as the probable duration is concerned. The cure of the

disease is influenced by a number of conditions which enter as factors. The length of the treatment will depend:

1. Upon whether it be a first or a recurrent attack, upon the duration of the trouble and the character of the treatment already employed. The prognosis is more favorable in recent untreated cases.

2. Upon its localization and the presence or absence of complications. Anterior urethritis is more readily cured than when the infection is localized in the posterior urethra, complicated, as it so often is, with prostatitis, spermatoecystitis, as well as constituting the point of departure for invasion of the epididymis and other structures. It is more difficult to cure when complicated with granular patches and stricture.

3. It will depend upon the constitutional peculiarities of the patient. The urethra of some patients shows less resistance to the invasion of the mucous membrane and less susceptibility to developing the therapeutic efficacy of the means employed for cure.

4. It will depend upon the character of the treatment and the docility and faithfulness of the patient in carrying out instructions as to diet, drink, and personal hygiene.

Observation shows that in a certain proportion of cases the disease is extremely intractable. In the majority of cases at least six months should be taken as the average time for treatment and observation, assuming that our examination has shown the absence of serious complications.

The idiosyncrasies or peculiarities of patients have a marked influence upon the duration of treatment. A plan of treatment which may act admirably in one case will aggravate another. Some urethras are affected unfavorably by irritating treatment; the passage of a sound, the use of

a strong instillation, will set up a violent inflammation, with a tendency to extend to the epididymis and seminal vesicles. Such irritable cases are rebellious, intractable, and excessively discouraging.

In other cases the gonococcus seems to hold on with the most surprising tenacity; flushing the urethra with permanganate solution, the instillation of strong silver salts, may be employed in the war of extermination, but the parasites are elusive, evasive, and endowed with a wonderful staying power of resistance. After the microscope fails to reveal their presence in the secretions, which may be revived by irritating injections, shreds in the urine containing purulent elements may still continue. Then, again, we have to contend against the indocility, the half-hearted co-operation of the patient, who is apt to commit some excess, to suspend treatment, or to disappear.

TREATMENT. As this is not intended as a treatise on the treatment of gonorrhœa, the subject of therapy will be but lightly touched upon and only the briefest reference made to what are regarded as the most efficacious methods.

There is a wide field for choice in the methods of local treatment. What may be termed the methods of irrigation and instillation are at the present time most in vogue. The former is likely to be found most serviceable when the discharge is profuse, the inflammation acute and situated in the anterior urethra. When the inflammation is posteriorly situated, instillations are perhaps the most effective means of curing the discharge.

What is termed the Janet method of irrigation has many advocates. In this country the apparatus known as the "Valentine douche" is more generally employed. A modi-

fication of this method, by confining the irrigation to the anterior urethra with the irrigating apparatus and using a catheter for posterior work, gives perhaps the best results.

A variety of drugs have been employed for irrigation—the permanganate solution (1 : 4000), sublimate solution (1 : 15,000), etc.; for instillation, solutions of nitrate of silver, copper, protargol, albargin, argyrol, and various new silver salts. There is no question that the irrigation treatment has a marked curative influence especially in anterior urethritis; both the discharge and the active symptoms of the disease are made to disappear more rapidly by irrigations than by any other method that can be employed. But when the gonococci are located in the deep urethra we must often depend upon strong injections of silver nitrate to give the *coup de grace* to the enemy. The solutions employed are nitrate of silver (1 to 3 per cent.), sulphate of copper (2 to 8 per cent.), protargol (5 to 20 per cent.), or argyrol (5 to 20 per cent.), etc.

CHAPTER XIII.

CONDITIONS OF ADMISSIBILITY OF THE GONORRHOIC TO MARRIAGE.

WHEN the physician is consulted by a man who has, or who has had, gonorrhœa as to his fitness for marriage, professional sanction of the matrimonial venture should depend upon the presence or absence of the gonococci. If the gonococci are present there is danger of infection; if the man's urethra has been cleansed of these organisms, there is none. This pathological fact is generally accepted as the sole basis of the physician's decision.

Finger thus formulates the conditions which it is necessary should exist in men who have suffered from gonorrhœa in order that they may be authorized to marry:

1. Purely physiological character of the secretions, especially the filaments.
2. Complete absence of gonococci in the secretion and in the filaments, even after irritation of the urethral mucous membrane by instillations of silver nitrate or sublimate solution; this condition to continue for from two to four weeks of daily examination.
3. Exemption from any local manifestations, such as stricture, prostatorrhœa, etc., that would necessitate the prolongation of treatment.

Janet thinks that the first condition is entirely too stringent. If insisted upon, marriage would become quite exceptional

in men who have had gonorrhœa. The fact of having in the urine some purulent filaments without micro-organisms does not necessarily constitute danger of infection to a woman. He declares that many individuals in whom such conditions existed he had authorized to marry without fear of infection. On the other hand, he thinks that Finger's conditions are not severe enough, since men in appearance absolutely healthy, without discharge, without filaments, are susceptible of being self-infected by suppurative microbes, the inoculation of which to a woman might be dangerous, if not fatal.

Most authorities, however, agree that the decision of the physician as to the fitness of a gonorrhœic for marriage is to be based solely upon the presence or absence of the gonococci. It is well known that various micro-organisms are found in the male urethra which are without pathogenic influence in a perfectly normal condition of the urethral mucous membrane. When the mucous membrane is damaged or modified by inflammatory changes, these naturally innocuous organisms are capable of co-operating with the gonococci in the production of suppurative troubles. In the majority of cases when the gonococci disappear there is a *restitutio ad integrum*, and this immunity against diverse microbic invasion is restored; but if the gonorrhœal infection remains established for a long time, or if repeated at short intervals by new infections, the conditions change, the urethral mucous membrane becomes modified anatomically and pathologically, and its normal immunity is not regained. This condition, according to Janet, establishes a state of "receptivity" of the urethra which renders it susceptible to the pathogenic action of microbes ordinarily inoffensive. He claims that

this condition of the urethra may coexist with an appearance of health without morning drop or any active sign of disease. When this receptivity exists the man may be susceptible of being self-infected by these pathogenic germs in his own urethra, and capable of communicating this autoinfection to the woman with whom he has relations. In such cases the gonococci serve to inaugurate the infection which continues after they have disappeared.

Janet insists that cases in which the "receptivity" of the male urethra is established the man should be under observation for from one to four years before marriage is permitted. "I would demand an entire year without secondary infection. Even at the risk of being called a pessimist, I would impose this delay upon gonorrhœics. The enormous number of matrimonial uterine affections shows that heretofore we have been too indulgent in this regard. Metritis, salpingitis, and grave operations are the future of these unfortunate wives who had hoped to find happiness in marriage. It is time to react, to consider gonorrhœa as at least equal to syphilis from the point of view of conjugal relations."

There is no doubt that in long-continued or frequently recurrent inflammations the urethra of the male suffers more or less damage which robs it of its resisting capacity and predisposes it to the invasion of microbes ordinarily inoffensive. We know but little of the precise measure of pathogenic influence to be attributed to these secondary infections in the production of the grave consequences ascribed to them by Janet. In the present state of our knowledge it suffices to recognize the gonococcus as the active pathogenic agent, and when its absence from the urethra is demon-

strated beyond all possibility of doubt, it is scientifically safe to permit marriage.

There are, however, certain risks to the personal health of the gonorrhœic from his disease which rarely, if ever, enter into the appreciation of the question of his fitness for marriage. These risks relate more especially to the damage to his reproductive organs, not infrequently caused by the disease, and which from a biological point of view constitute a distinct disqualification for marriage.

PERSONAL HEALTH OF THE HUSBAND.

The relations of gonorrhœa with marriage have thus far been considered with reference to the risks of contagion to the wife and mother. As said before, the first and most indispensable condition of the marriage of the gonorrhœic is that he should not be the bearer of contagion.

But there are other barriers to marriage which may be created by the disease quite independent of any contagious risks. These disabilities affect the husband alone. The cleansing of a man's urethra from gonococci does not always wipe out the debt created by the disease; the certificate of the physician that he is no longer contagious is not necessarily equivalent to a clean bill of health. In many cases there are results to be reckoned with in the shape of complications or sequelæ which may seriously compromise his health for the future, such as lesions of the prostate and seminal vesicles, stricture, etc., to say nothing of gonorrhœal rheumatism of a permanent disabling character.

The most important sequelæ are structural changes in the organs which produce and convey the semen and which

affect the procreative capacity of the individual. While sterility of the husband resulting from gonorrhœa is absolutely inoffensive, in that it does not imperil the health of the wife, yet it may constitute a serious menace to the peace and happiness of the household.

Sterility on the part of the male is the inability to produce offspring. A man may possess normal virile power and have a discharge of seminal fluid, but if this contains no fertile spermatozoa he is sterile.

Gonorrhœa may cause sterility through inflammatory conditions of the prostate, cicatricial occlusion of the seminal ducts, and various other complications. Stricture may cause aspermia; a tight stricture which may not entirely obstruct the passage of urine may, under the changed vascular conditions of the urethral mucous membrane which attend erection, so encroach upon the calibre of the urethra as to render it impervious to the denser seminal fluid, which regurgitates back into the bladder and is passed with the urine when erection subsides. This stricture may be of such a character that it can only be relieved by operations which entail a certain amount of danger.

Complete impotence is always a cause of sterility. One contraindication to marriage created or at least aggravated by posterior urethritis is *impotentia coeundi*. The etiological influence of gonorrhœa in the production of impotence was formerly unrecognized, but at the present day no fact is better established than that prostatitis and spermato-cystitis which result from the propagation of the gonorrhœal inflammation to the prostate and seminal ducts determine a marked local irritability, often attended with enfeeblement or loss of the virile power. This result is especially apt to occur in

persons of the neurotic type who at the time of infection were suffering from sexual debility. In these cases the inflammatory action aggravates and intensifies the sexual weakness. The influence of gonorrhœal inflammation of the deep urethra in provoking nocturnal emissions and spermatorrhœa is well known. Fortunately, with the cure of the gonorrhœal inflammation the virile capacity may be restored, but in some cases it persists long after the morbid condition which caused it has been removed.

The important relation of impotence with marriage may be inferred from the fact that the law which does not protect a woman against gonorrhœal infection may protect her against this consequence by dissolving the union. Impotence has in all ages been recognized by the law as a sufficient cause of nullity of marriage.

It is, however, the *impotentia generandi*—resulting from the blocking up of the channels of communication between the testis and the urethra by gonorrhœal inflammation of the epididymis—which has an especial interest in connection with the question of a man's fitness for marriage.

Epididymitis is recognized as the most frequent complication of gonorrhœa. The comparative frequency varies from 13 to 30 per cent., as given by Rollet, Jullien, Finger, and others. Neisser in 28,787 cases of gonorrhœa found epididymitis in 27.1 per cent. against 17.8 per cent. of all other complications. In a large number of statistics embracing 285,048 cases of gonorrhœa, 16.11 per cent. had epididymitis. It is to be observed, however, that these statistics are largely made up of hospital cases, the class in which for obvious reasons this complication is more frequent than among patients in private practice. In general it may

be said that in private practice epididymitis occurs in from 8 to 10 per cent. of the cases. Fortunately, this complication is in the large majority of cases unilateral. Subsidence of the swelling and acute symptoms takes place in practically all cases, but a complete *restitutio ad integrum* is comparatively rare. The absorption of the infiltration is apt to be incomplete, and there remains in some portions of the epididymis, usually the head, one or more sharply defined nodules which may cause but little annoyance to the patient. In other cases there is a more uniform and diffuse thickening of the head or tail, which may exist for years without undergoing involution or marked modification; or the inflammation may be confined to the vas deferens, constituting gonorrhœal chorditis.

Very often these infiltrations and connective-tissue thickenings cause stenosis of the excretory canals, and thus prevent the passage of the semen from the testes. If the fibrous nodule is situated in the globus major, the exudation may involve only a portion of the excretory ducts, the others remaining unobstructed and permitting the passage of the testicular secretion. On the contrary, if the globus minor or tail, which is a single duct, is the seat of the nodular infiltration, there is more apt to be complete occlusion of the channel through which the semen passes to the vas deferens.

Even though there be complete blocking of the channel of communication on the one side, it does not, of course, interfere with the passage of the spermatozoa through the other. If bilateral blocking occurs from bilateral epididymitis, azoöspemia is the inevitable result, with consequent sterility. It does not always happen, however, that when the epididymitis is unilateral the other side functions properly.

There are well-attested cases showing that when one epididymis was the seat of inflammation and the other appeared to be entirely normal, there was nevertheless found to be complete absence of spermatozoa and that this condition persisted long after the disappearance of all inflammatory symptoms. In these cases it is probable that the slight inflammatory changes on the apparently unaffected side were masked by the most intense symptoms on the other, and consequently overlooked, but were quite sufficient to cause occlusion of the efferent duct on that side. The practical question is whether azoöspemia resulting from bilateral gonorrhœal epididymitis is permanent or only of temporary duration. The nodosities in many cases never entirely disappear, but in some cases it is evident that the exudate blocking up the canal may be gradually absorbed, giving a more or less free passage, since there are numerous cases on record in which the subjects of bilateral epididymitis have become the fathers of children.

In 85 cases of bilateral epididymitis followed by induration, reported by Gosselin, Goddard, Legois, and Jullien, in only 9 was the return of the spermatozoa noted. In 76 the azoöspemia remained permanent. In some of these cases the observation extended over many years. In one of Gosselin's cases no spermatozoa were found after five years. In three other cases the azoöspemia persisted as long as the examinations were made, four, six, and ten years.

Kehrer found in 96 cases of sterile marriages azoöspemia 29 times and oligospermia 29 times as the result of antecedent orchitis and funiculitis. Balzet and Soupet, from their examination of 46 cases, give the following results: In 34 cases of recent epididymo-orchitis, spermatozoa were

present in 3; in 6 cases of old orchitis dating back at least six months, spermatozoa were present in 5.

The observations of Martin, of Philadelphia, would seem to indicate that recovery takes place in a larger proportion of cases than the above statistics indicate. Brusch, Furbringer, and others believe that 90 per cent. of all cases of azoöspemia may be traced to antecedent disease of the epididymis and cord. Presumptive proof of azoöspemia may be found in the history or present evidence of epididymitis and the existence of nodular indurations in the head, middle portion, or tail of the epididymal canal. In the first class of cases there is reasonable probability of cure; in the second the prognosis is less favorable; and in the third there is little hope of cure (Jullien).

In cases in which no distinctive induration can be made out the prognosis is most favorable of all. The accident of the localization of the inflammatory process, whether in the head or the tail of the epididymis, would then seem to constitute the vast difference between sterility and fecundity, and indicate whether all hope of the propagation of a family is lost or compromised.

Time is the essential element in determining the prognosis; even in cases apparently unfavorable, six months or a year would be necessary before deciding that the sterility is probably hopeless and permanent. The microscopical examination of the seminal fluid for azoöspemia is the final and decisive test. It may show complete absence of these organisms, or, if present, whether they are few in number, normal in development, and endowed with motility. It is to be remembered that oligospermia may also be the cause of sterility in the male.

When we come to consider the question of the admissibility to marriage of a man who has suffered from gonorrhœal epididymitis, it will be seen that it may depend upon a condition quite apart from the risks of contagion to the wife. Patients who have these nodosities which do not interfere with their virile powers are apt to disregard them altogether and rarely come to the physician to ask his advice as to their aptitude for marriage. Even if he has learned that it will probably affect his procreative power, he is not inclined to regard his inability to beget offspring as a disqualifying condition. The begetting of a family of children does not always enter into a man's calculation in contracting a marriage. Some men would be inclined to consider the exemption from the responsibility, care, and expense of raising children as desirable rather than the reverse; but shall we say that it is nothing to a woman to be deprived of her anticipated happiness of becoming a mother? Nature has implanted in the breast of every normally constituted woman a desire for children. The yearning of her nature can only be satisfied through this fulfilment of her destiny in being created a woman. As a girl before marriage she may not be conscious of this desire for maternity. Certainly she does not always confess it; but after marriage, if she does not conceive, she is conscious of having missed her highest happiness. The sexual instinct in man—strong, imperious, and often uncontrollable—has its analogy in the maternal instinct in woman.

It is a question whether a man who may have his *potentia cœundi* unimpaired, but without *potentia generandi*, has a moral right to enter into a marriage relation with a woman without her being informed of his procreative incapacity. Marriage is a civil contract entered into by a man and woman

through various considerations, each being supposed to furnish a sufficiency of vital vigor to fulfil the supreme object of marriage, viz., the raising of a family. Now, if one party contributes a physical organism emasculated by disease which renders him incapable of fulfilling his part of the contract, he cheats his partner; he renders null and void the most essential object for which the marriage was instituted.

It may be said that in acquainting his proposed partner with his disability in this respect the man acquits himself of all responsibility; but this is much like making a contract with an infant or a minor. The young woman, blinded perhaps by love or sympathy, is incapable of appreciating or fully comprehending the full significance of such a partnership.

In the martyrdom of women there is no more pathetic sight than the woman who has been balked of her instinctive desire for children and who goes from one physician to another in the hope, oftentimes in vain, of having her sterility cured. The instinct and craving for maternity becomes a veritable obsession. She will at any cost of time and pain and suffering submit to any treatment which promises relief—curetting, division of the cervix, and even more formidable operations upon her pelvic organs. And the satire of it all is that in many cases the husband, inflated with the sense of his own virility, is himself responsible for the sterility!

The proportion of sterile marriages due to fault of the husband is stated by Gross to be 17 per cent. Engelmann, as a result of careful study, places it at 20 per cent. Brothers in his investigations found that in 25 per cent. of the cases the husband was responsible, and it is to be

remembered that the large proportion of the 75 per cent. of sterility assigned to the woman is due to gonorrhœa communicated to the wife by her husband.

The obvious conclusion is that in all cases where the physician is consulted by a married couple on account of sterility, he should first satisfy himself, by examination of the husband, whether he has any reliquats of antecedent gonorrhœal inflammation which might account for it, before subjecting the wife to a perhaps entirely unnecessary treatment.

CHAPTER XIV.

AFTER MARRIAGE.

BEFORE marriage the line of conduct to be pursued by the physician is clear, plain, and easily formulated. It is to determine whether the man is the bearer of contagion and to postpone the consummation of the marriage until he is free from contagious elements. After marriage the physician's duty becomes much more difficult and delicate in view of the varying and complicated character of the situations presented, as follows:

1. A man may present himself with an acute gonorrhœa contracted through exposure after marriage.

2. He may have an acute gonorrhœa without having exposed himself extraconjugally.

3. He may have a revival of a chronic gonorrhœa which was latent at the time of marriage, but awakened into activity after marriage as a result of his marital relations.

1. The man presents himself to the physician with an acute purulent discharge, which he may frankly confess is due to an extraconjugal adventure or for the origin of which he professes to be unable to account. It is always well in dealing with this latter class of cases for the physician to maintain a prudent reserve in accepting the patient's statement. He should give due significance to one symptom common to all venereal patients, namely, lying. There is no question that

many patients are loath to make an avowal of exposure to a shameful disease which, in the case of a married man, is accentuated by the entirely false idea that the physician acts in the capacity of a father confessor or judge, as well as adviser. The fact that "the world is given to lying" is especially impressed upon the specialist in seeking the origin of venereal infections.

A man will frequently maintain that he has not exposed himself to contagion, with the mental reservation that the woman he went with was "all right." One of the most extraordinary delusions which the physician meets with is the blind fanatic faith which many men have in the loyalty of the particular woman from whom they have received favors of this kind. Any incredulity upon this score expressed by the physician is regarded by the patient as a reflection upon the fastidiousness of his taste and the infallibility of his judgment in making a selection. Even after a microscopical examination has demonstrated beyond question the convicting evidence that he has gonococci, he sturdily maintains his belief in her cleanness. Very often he comes back with the statement that the woman has been examined by her own physician, who pronounces her free from disease.

It is impossible for the physician to elicit satisfactory evidence. As Diday says, "It is a lawsuit in which we always see the complainant, but never the defendant." An examination by the physician himself may even fail to convict the woman. Women who are likely to transmit disease are adepts in covering up traces of contagion. Urination and copious vaginal douches just before the time set for the examination usually serve to clear up all incriminating evidence. Then, again, the possibility of mediate contagion

must be borne in mind. A woman may act as a conveyor of infection without herself being infected.

In the majority of cases when a married man comes with the frank confession that he has been infected outside, it is usually accompanied with the statement that his wife was away in the country, that he dined with some friends at the club and drank too much, lost his head, was persuaded to visit a house of ill-fame, etc. This confession is always coupled with the insistent demand that the physician must cure him before his wife returns.

2. There is another class of cases in which the husband seems unduly anxious and excited and honestly ignorant of the source of contagion. The author has had more than one patient to whom the announcement that he had gonorrhœa was like a staggering blow. To the remark, "Yes, you have gonorrhœa, but there is no use getting so excited over it; the gonorrhœa can be cured, and there is an end of it," he replies, "But, doctor, you don't understand; I am married, and since my marriage I have never been outside, and I am told that only gonorrhœa can give a gonorrhœa." "Yes, that is true; you have in all probability given it to yourself." But this only increases his perplexity. In all these cases you will find a history of gonorrhœa before marriage of which the man may honestly believe he has been cured, and which may return to plague him after his premarital follies have been forgotten.

This acute discharge which occurs in a man who is married after he had believed himself cured has a diverse etiology. There may be an autoinfection from a spontaneous exacerbation of a latent, inactive, but not yet extinct gonorrhœa. Under the influence of various irritant or exciting causes, as

a result of alcoholic drinks, sexual excess, fatiguing exercise, these dormant germs are revived and reveal their presence by a purulent discharge. Sometimes an indolent, slowly forming stricture has in its gradual encroachment so narrowed the calibre of the urethra that the tube has lost its elasticity and is unable to expel the last drops of urine; this is retained behind the stricture and gives rise to irritative changes which provoke a microbic revival.

3. In this class of cases the contagion has been revived from the wife, who has been infected by her husband. It is no infrequent occurrence for the germs which are inert and inactive in the worn-out soil of the male urethra to still conserve their capacity of infection when transplanted to fresh tissues. In this new soil they acquire fresh vitality; the husband is reinfected with the germs he himself has given to his wife, and the disease is returned to him with an exalted virulence and capable of causing an intense purulent inflammation. The fact that evidences of the purulent discharge may have first appeared in the wife, the husband only showing it after the classical period of incubation, may be considered as a proof of the wife's innocence, always, however, with the provision that the husband has had gonorrhœa before marriage. Now, what is the line of conduct to be pursued in these cases? The wife may have so far escaped infection or she may have been contaminated.

WIFE NOT CONTAMINATED.

In the first place the cardinal indication is to protect the woman from infection, and the second is to destroy the infectious elements by curing the gonorrhœa in the husband. The

only absolute safety for the woman is abstention from sexual intercourse, which constitutes at the same time the necessary condition of his cure. If he violates this condition he is punished by an aggravation and intensification of all his inflammatory symptoms. He must understand thoroughly that indulgence will inevitably compromise or defeat his cure. In the case of syphilis, continence is indicated solely in the interests of the wife's protection, as sexual intercourse does not aggravate syphilis; but in the case of gonorrhœa, continence is also indicated in the interests of the husband, as it is essential for the cure of his disease.

In case the patient presents himself on the first appearance of an acute gonorrhœa, the first indication is to suppress as soon as possible the source of contagion. There is the forlorn hope that the disease may be strangulated by abortive treatment. However delusive in practical results experience shows this treatment to be, the patient should have the benefit of its possible success. If this fails, recourse should be had to the most energetic treatment by irrigation.

In carrying out the second indication, that is, abstinence from sexual intercourse, there will be found the greatest difficulty. Abstinence from this accustomed relation, especially after separation and absence, naturally breeds suspicion, and may carry conviction to the suspicious or jealous wife of her husband's infidelity. It is to escape this suspicion that husbands most often infect their wives.

The measures of individual prophylaxis which the physician may in his judgment recommend, if never employed before, may be objected to or refused by the woman, and insistence upon their use would only excite suspicion, which it is the chief object to allay. The man is then in a vicious

circle; the very means he would employ in order to cover up his evil doing only serve to reveal it. Repeatedly have husbands made this confession, "I was compelled to have intercourse with my wife to protect myself from suspicion," without realizing that this unspeakably base action could only have for its ultimate result not only the infection of the wife but also the probable unmasking of his infidelity.

There are cases, however, in which certain measures of protection may succeed in warding off infection until the husband has been cured of his contagion. Such a measure is the use of a protective with the avoidance of sexual relations five days before and five days after the menstrual period, or, better, complete abstinence until all purulent discharge has been dried up by astringent injections.

To avoid contagion in married life, Janet counsels to bathe every day the meatus with sublimate (1 : 3000), to practice coitus directly after urination, and, to still more effectively protect the woman, she should take large douches of sublimate (1 : 5000 to 1 : 6000).

It will be found, however, that it is extremely difficult to either cure the disease or avoid the danger of infection without complete abstention from all intercourse, and the question comes up whether it is a physician's duty to advise the husband to make an avowal of his fault. Diday declares that taking the initiative in deceiving the woman is in the strictest sense the duty of the physician, since the discovery of the infidelity of the husband would compromise gravely the peace and happiness of the household.

In the case of syphilis it has been recommended as a rule of conduct, to which of course there may be exceptions, that the physician should advise the avowal on the part of the

husband as to the nature of his disease. Now, gonorrhœa is certainly more apt to be transmitted during the act of copulation than syphilis, since the elements of contagion are localized in the urethral canal and discharged with the semen upon a surface apt for infection.

The wisdom of this advice depends largely upon the temperament and character of the woman. It is impossible to lay down a line of conduct applicable in every case. Many married women do not as a rule seek to inquire into the sexual past of their husbands. In this wide-awake age most young women know something of the life of the average young man. They do not expect to marry men virgin of all previous relations with women. If it is explained to the wife that the trouble that the husband has developed is due to a past indiscretion, that it will require but little time and abstention to cure him, she will have a greater charity. It is better to frankly avow this than to have the wife suspect, divine, and finally know the fact. Anything is better than that she should be contaminated.

WIFE CONTAMINATED.

Very often the infection is communicated by the husband in the first approaches, and the wife in her entire ignorance of such matters is led to believe that the results are attributable to the new and unaccustomed relation created by marriage. It thus happens that most women do not suspect the nature and cause of their sufferings. The primary symptoms improve or become supportable, and the physician's advice is not sought until after the disease becomes chronic or serious complications develop.

Jullien in his recent work (*Blenorrhagie et Mariage*) says: "Can the qualification of guilty be applied to those numerous persons who unconsciously sully their wives at the first contact? When the responsibilities are well examined, it is often to the negligence or ignorance of the doctor they must be ascribed. If he has made an insufficient examination; if he has been satisfied with a rapid inspection, or if deceived by false traditions, he has advised marriage in order to cure the gleet, he alone is guilty. To tabulate all the calamities which follow this fatal carelessness would be to write the endless martyrology of marriage, the saddest page I know.

"Toward the third day after the first approach the gonococcus shows itself, the symptoms being the more manifest because they are complicated by the injuries of the defloration. The young woman hardly dares to complain, still less to demand an examination. Her husband, however, insists, with an ardor not difficult to understand, in continuing to exercise his rights, and every day he sows and reaps the evil seed which is developing. When she complains of an itching, burning sensation, both agree in attributing it to the defloration, and it is only when her sufferings and anxiety reach a high pitch, and she refuses to let her husband embrace her, that he in his turn begins to grow anxious and wants to know something about it. He looks and naturally sees everything, and understands nothing. The couple are on their wedding tour, perhaps in a foreign city. A druggist is consulted and gives a bottle of solution of boric acid or some other stuff equally ineffective; the inflammation increases. The victim is driven nearly wild by her sufferings and by being repeatedly told that it is nothing—"that it is

always like this at first." Can one imagine the distress of the innocent girl? She is young, almost a child, and it is the first time she has ever left her parents. She is with a man whom very often she hardly knows, and when she has submissively sacrificed to him all her sentiments of natural or acquired modesty she feels herself a prey to a malady as mysterious as it is painful and which makes her blush as much as it makes her suffer. A doctor is at last called in to examine her. He finds the mucous surfaces red and turgid, the folds swollen, the torn and bleeding remains of the hymen, and all bathed in pus. The picture is well known to all those doctors who practice in places resorted to on wedding tours, and for my own part I have seen it often enough in Paris."

The intensity of the initial symptoms varies considerably when the infection is primarily localized in the urethra and vagina. Usually there is pain in urination, with more or less vaginal discharge which persists after the dysuria has disappeared. Menstruation, regular before marriage and painless, becomes irregular and preceded by pain, which is usually relieved by the menstrual flow. The patient loses flesh, is unable to walk freely or do things she was accustomed to do before marriage. She becomes a confirmed invalid, dragging out a weary existence, rarely free from aches and pains. Of such women the world says "marriage does not agree with them"; "they do not support marriage well." Science says "gonorrhœa makes such women invalids, neurasthenics, martyrs, subjects for the operating-table."

The special dangers which beset a woman who has unfortunately been infected by her husband, and in whom the

infection is insidious and localized in the cervix, have already been described.

As said before, such infection is especially fraught with danger from the fact that its existence is often not suspected until after an outbreak of explosive virulence.

When a woman, healthy before her marriage, begins to complain of abdominal distress and pain localized over the uterus or ovaries, in the sacral region, and extending down the thighs, of derangements of the menstrual function, and exacerbations of "leucorrhœa" before or after each menstrual period, and of other symptoms before enumerated, the physician should think of its possible gonorrhœic etiology. The patient, when interrogated, may give no history of any known infection. She may have experienced none of the symptoms of acute gonorrhœa of the external genitals, urethra, or vagina, or give only a vague history of painful urination and discharge; still it must be remembered that gonorrhœal infection in marriage may and most frequently does make its *début* in a chronic form. The physician should make a thorough examination, and if his suspicions are verified he should insist upon radical treatment. He should advise against fatiguing exercise, sexual excess, and should enjoin special care during the menstrual period. All this may be done if managed carefully and tactfully without awakening her suspicions as to the true nature of the apparently harmless and inoffensive trouble from which she suffers.

It is quite as essential to cure the husband as it is the wife. "If gonorrhœa," says M. Petit Paul, "is difficult to cure, particularly in women, it is that quite independent of the individual soil and the persistence of the germs in the

crypts and lacunæ, from which it is difficult to dislodge them, the wife is incessantly reinoculated by the husband."

To the husband the physician should enjoin the interdiction of pregnancy until his wife is cured. However immoral this advice may appear, it may be the salvation of the woman. All observation shows that pregnancy is the worst thing that can happen to a woman suffering from cervical gonorrhœa. It is equivalent to preparing the soil for the culture bed of dangerous seed which might not otherwise find conditions favorable for their germination and growth. If the woman becomes pregnant, it may terminate in abortion or premature accouchement. At best she will probably produce but one child, which is fated to undergo during its passage into the world inoculation with gonococci which may destroy the eyes, and with what consequences to the mother? We have seen that gonorrhœal germs become multiplied and exalted in virulence by their cultivation in the lochial fluid. They rapidly invade the body of the uterus, ascend to the annexial organs, with all the consequences of salpingitis, oöphoritis, peritonitis, etc. After these profound changes take place there is a wide diversity of opinion as to its curability. Many authorities believe that gonorrhœa, especially after it has penetrated deeply, is impossible of cure. The essential condition of cure is that it should be seen in the early stage, before infection of the uterus and annexial organs takes place. When it reaches the appendages the general opinion is that it is incurable except by radical operation.

CHAPTER XV.

CHANCROID OR SIMPLE CHANCRE.

THE relations of chancroid with marriage are of subordinate importance, and their consideration is introduced here only for the sake of completeness.

By many authorities chancroid is regarded as a local parasite which has no more pathological significance than attaches to condylomata acuminata situated in the genital or perigenital region. This view is obviously incorrect. While chancroid is a local ulcer whose range of morbid action is in the majority of cases distinctly circumscribed within the lymphatic circle which surrounds its point of origin, and is as a rule of limited duration, yet it is intensely contagious, and under certain conditions may constitute a prolonged barrier or contraindication to marriage.

The interest of chancroid in connection with marriage is due chiefly to the remarkable similarity it bears to the initial lesion of syphilis, the difficulty and often the impossibility of making a clear differential diagnosis, and largely because it so often serves by its symbiosis with the chancre, constituting "mixed chancre," to mask the existence of the latter. No matter how "chancroidal" the ulcer may appear, however reassuring its objective characters, it is impossible to exclude the possibility of its transformation into a chancre until after the classical period of the incubation of the latter has passed.

It will be thus seen that the question of identifying the nature of a venereal sore is of the utmost importance in this connection. Suppose a man comes to you with a venereal sore, say a few months before the date of his marriage, if it be a chancroid there is no reasonable doubt that he may be cured, and that in this case sanction of his marriage at the time specified would be perfectly safe. If, on the other hand, it be a chancre, the marriage is out of the question.

On account of the facility with which chancroid can be artificially cultivated and the regular and almost constant stadia of its evolution, it is of all venereal disorders the one the course and duration of which we can predict with almost mathematical precision. On account of its brevity it constitutes a comparatively short interdiction to marriage. But there are a number of elements which may enter to complicate the situation, depending upon its localization, its possible autoinoculation, its complication with phimosis, adenitis, and the supervention of phagadenism.

LOCALITY. It is known that chancroid in certain locations is exceedingly intractable to treatment. A chancroid of the frænum requires more than the normal period for its cicatrization and cure. Ulceration proceeds until the bridle has been destroyed; cicatrization rarely begins until after the destruction of the frænum, so that it may be two or three months or longer before the chancroid has entirely healed. Chancroids of the anus, of the preputial orifice, subject to tears and abrasions, are almost always followed by inoculation of new surfaces, and the healing may be prolonged for months.

PHIMOSIS. When complicated with phimosis there may be a strangulation of the tissues, and there is then a choice

between possible mutilation from an ulcerative or phagadenic process and exposure of the glans by the dorsal or lateral incision.

ADENITIS. Then, again, chancroid may be complicated with virulent adenitis, and to the period which is required for the chancroid to pass through the progressive and reparative stages must be added another period, often prolonged, for the evolution and cicatrization of the bubo. Virulent adenitis may persist for three months or longer after complete cicatrization of the original chancroid.

PHAGADENISM. When chancroid becomes complicated with phagadenism it demands a delay of indeterminate duration, so that, even assuming that the diagnosis of chancroid could be made out with absolute certainty, there are so many possible eventualities which modify the prognosis that the physician is not justified in promising a speedy cure.

But the principal significance of chancroid in this connection is its similitude to the chancre. The inability to pronounce positively upon the nature of the sore or upon its simple or specific character is recognized by all practitioners of experience. All the classical signs of soft chancre, the multiplicity of the lesion, the short period of incubation, the character of the ulcer, the softness of its base, the monoganglionic enlargement, which ordinarily serve as the basis of diagnosis, may indicate the probability but not the absolute certainty that the chancroid is simple and will remain so. It may be laid down as a safe diagnostic rule that every venereal sore the physical signs of which leave the skilled physician in doubt as to its nature is an infecting chancre. It is often possible and at times easy to recognize that a sore is infective, but we can at no time arrive at the certainty

that the lesion is not a chancre; with all the favorable signs that may be present we cannot positively say that it will not be followed by syphilis.

The autoinoculation of the lesion is by no means an absolute diagnostic sign, since experiments have shown that the pus of other lesions possesses this property. There are so many sources of error possible that the most practised physician must always remain in doubt during a certain period. I have recently observed a case in which the patient did not fix the date of his marriage until after a specialist of this city had diagnosed the lesion as chancroid and assured him of cure within the period of two months. What was the result of this blind optimism on the part of his physician? After completing all the arrangements for his marriage, just two weeks before the day appointed there appeared a characteristic syphilitic eruption. This marriage took place in spite of my protest, on the ground that it was too late to retreat. It is needless to say that he infected his wife.

The most skilful diagnosticians have often committed errors of this nature, and the natural propensity of the physician is to interpret the clinical signs in favor of his patient. It is more prudent in all these cases to wait and see whether there is any modification in the base of the lesion or in the character of the ganglionic enlargement which might indicate the coexistence of a chancre. If the inoculation of the chancroidal and syphilitic virus were simultaneous it may require a period of thirty days or more after the appearance of the chancroid before the base of the ulcer becomes specifically indurated. Even when the specific characters of the lesion are entirely wanting it is

safer to wait until the period of incubation of secondary syphilis shall have passed before expressing an absolute opinion that the sore will have no constitutional consequences.

The physician must always contend against that professional propensity to place the most favorable interpretation upon signs and symptoms in doubtful cases of this character. While a cheerful optimism may be most commendable in the ordinary treatment of these diseases, yet when the question of marriage is concerned the consequences of a mistake are too grave and disastrous to justify a diagnosis from which every element of uncertainty has not been excluded.

PART II.

SYPHILIS AND MARRIAGE.

CHAPTER XVI.

SYPHILIS.

BEFORE MARRIAGE.

WHILE syphilis is a less prevalent disease than gonorrhœa, it is much more prolific in sources and modes of contagion, and, in addition, is susceptible of hereditary transmission.

When syphilis is introduced into marriage it may become the origin of many innocent infections. Not only the wife and children may be contaminated, but the syphilitic infant may infect the nurse or other members of the family, and the nurse may in turn infect her husband and her own children. Veritable endemics of syphilis have originated in this way. It is this quality of expansiveness, this capacity of morbid irradiation through family and social life, that gives to syphilis its superior significance as a social danger.

The relations of syphilis with marriage are most complex and far-reaching in their results. They involve not only serious pathological consequences, but they affect the interests of the family and society—they have an important social as well as a medical aspect.

From a medical point of view their chief importance lies in the fact that syphilis is not only commonly propagated through that relation between the sexes established by marriage, but that the vast complex of pathological phenomena peculiar to hereditary syphilis has its almost exclu-

sive origin in the introduction of this disease into marriage.

From a socio-biological point of view the chief significance of these relations is that syphilis may seriously compromise or entirely defeat the social aim of marriage.

Society has instituted marriage for the purpose of its own perpetuation; the civil object is the legalization of sexual commerce and the procreation of children. From the point of view of race perpetuation syphilis is directly antagonistic to the intention of marriage. The function of marriage is to create life; the action of syphilis is to damage or destroy life. While syphilis may not materially affect the capacity for sexual intercourse nor impair the power of procreation, it renders the one dangerous by infection, the other deadly through inheritance.

Even when syphilis does not destroy the product of conception it transmits to the offspring a defective organization—the infant comes into the world a blighted being, lacking in development and physical stamina and stamped with inferiority. Syphilis is thus not only a factor of depopulation, but a cause of degeneration of the race.

Apart from the purely practical and utilitarian view of the object of marriage, there is another aspect of its relations with syphilis of importance from a social point of view. The influential motive which prompts many men and most women to enter matrimony is the pursuit of happiness. They expect to realize the fruition of their hopes in the intimate association and companionship which this relation permits. Now syphilis introduced into marriage often strikes the death knell of such hopes; it is destructive of the mutual love and esteem which should form the basis

of marriage. Syphilis distils a double venom; it poisons not only the health, but the happiness of the household. It carries in its train not only physical woes, but social misery; often disunion and divorce.

What husband can hope to retain the love and esteem of the wife whom he has dishonored with a shameful disease; of the mother in whose child he has infused the foul taint of the prostitute, which dies before being born, or comes into the world an object of disgust and horror? If he be a man of conscience and sensibility, what remorse he must suffer from his sense of guilty responsibility for the ruin he has wrought?

These pathological consequences and the social miseries they engender are by no means exceptional or uncommon. They are the natural expression of the disease, the sequence of cause and effect, almost inevitable under the conditions created by the marriage relation. Their frequency is far from being appreciated by the laity or even the general medical practitioner. Syphilis wears the protective mantle of shame, of secrecy, and silence, and its ravages, physical as well as social, are concealed from public view.

To guard against the introduction of syphilis into marriage and to avert or diminish its effects when already introduced is the sanitary as well as the social duty of the physician.

In this sanitary task the physician will find himself constantly confronted by opposing and conflicting interests in his endeavor to dissuade a syphilitic man from a premature marriage. He will encounter the opposition which comes from ignorance of the nature and dangers of his disease, from indifference or carelessness, from material or pecuniary interests that would have to be sacrificed, from the

embarrassment of retreating from an engagement, or the inconvenience of postponing a marriage which has already been arranged for. These and numerous other selfish pretexts will be urged in opposition to the physician's counsel.

After marriage it might appear that the interest of the husband and the family were identical; certainly it is not to the interest of the husband to infect his wife or transmit his disease to his children. But here the shameful nature of the disease, and especially the incriminating character of its origin, introduces a complicating element. The existence of syphilis in the husband is proof, presumptive, at least, of immoral relations before marriage or infidelity after marriage. To conceal the existence of his disease appears to him the supreme interest, and the physician, whose professional relations are primarily and principally with the husband, must guard his secret. Now the preservation of this secret is hardly reconcilable with the sanitary duty of preserving the wife and offspring from infection. The husband in his effort to conceal his disease most often communicates it. When the wife becomes infected it is all important that she should receive the benefit of prompt and thorough treatment in her own interest and the interest of the children she may bear, and here the real difficulties of the physician's task begin when he is required to treat a woman with syphilis for a long period with the obligation that she must not know or suspect for what she is being treated.

There is absolutely no question which comes before the physician which involves so many interests, which entails so many consequences, social, physical, and moral, and

which demands of him a higher degree of knowledge, of prudence, and professional sagacity as the prophylaxis of syphilis in marriage.

SHOULD THE SYPHILITIC MAN MARRY?

Syphilis possesses two fundamental characters which give a special interest to this question, contagiousness and susceptibility to hereditary transmission, both of which emphasize its important relations with marriage. The quality of contagiousness syphilis shares with a great many other specific diseases; in the quality of hereditary transmission it is pre-eminent; it stands as the perfected type of a hereditary disease.

It is a universal law of general pathology that the diseases of progenitors who suffer from certain serious chronic maladies create a condition of defective life in the descendants which is expressed not only in organic defects, but in the functions of nutrition. The hereditary influence of most diseases is manifest in the transmission to the offspring of a constitutional protoplasmic state characterized by a feeble organization and diminished capacity of resistance to the germs of disease.

In tuberculosis, leprosy, and other chronic diseases the influence of heredity is probably limited to the creation of a predisposition to disease, shown in an abnormal susceptibility to the pathogenic action of the bacilli from an enfeebled capacity of resistance of the organism. In syphilis there would appear to be a direct transmission of specific qualities primarily embraced in the sperm or germ cell, with the result that the normal processes of nutrition are

vitiated and the product of conception is blighted in its development or destroyed. It is this pernicious effect of syphilis upon the offspring which gives to this disease an especial importance as a factor in the degeneration and depopulation of the race.

The effect of syphilis upon his fitness or capacity for marriage is always a matter of serious concern to the syphilitic, even when he may have no immediate intention of marrying. It would seem to be a peculiarity of human nature that when obstacles are placed in the way of marriage the more marriage attracts men. Then, again, when a man has contracted syphilis it is apt to sober him and at the same time disenchant him with licentious living, so that the safer relations of marriage appeal more strongly to him.

Some conception of the two characteristics of syphilis above alluded to is evidently comprehended by the patient in the question so frequently propounded to the physician, "Can I get married and have healthy children?" To this question the physician is in most instances justified in giving a reassuring response. In the great majority of cases he can assure the patient that his disease does not constitute a permanent, absolute obstacle to marriage, but, on the contrary, it is only a temporary barrier which may be removed by time and treatment. This assurance is not based upon the demonstration of the cure of the disease. Unfortunately we have no accurately scientific method of determining the definite cure of syphilis. We cannot depend upon bacteriological examination as a proof of the presence or absence of the virulent elements, as in the case of gonorrhœa.

No one doubts that syphilis is produced by micro-organisms, but we do not know them, consequently they cannot be identified in the lesions which they occasion. Our decision as to their presence or absence must rest upon clinical experience. It is to be observed, however, "that the accumulation of our experience makes our empirical knowledge, at last, scientific fact."

The facts of common observation show that multitudes of men who have had syphilis marry and never communicate their disease to their wives, and have healthy children. All physicians of experience know of men who have had syphilis in their youth who have married and procreated children. They have attended the family for years; the wife has never shown any suspicious phenomena, and the children have remained sound and healthy. No fact is better established than that active specific treatment also exerts a marked influence in correcting these diathetic qualities. It would hardly be necessary to insist upon these facts were it not that some physicians, as well as many of the laity, look upon syphilis and marriage as absolutely incompatible.

Many physicians do not believe in the curability of syphilis; they hold to the dogma that a man once syphilitic is always syphilitic, and with an inflexible logic conclude that a syphilitic man should never marry. They say that a man who has syphilis should keep it to himself; he should not risk giving it to others, especially to his wife and children. This conclusion is based upon false premises. It is not a question whether a man apparently cured of syphilis can be absolutely guaranteed from any subsequent outbreak of the disease; the question is whether these outbreaks carry

any pathological risk to the wife and descendants or damage to his own personal health which unfit him for the responsible position of the head of a family. No physician is justified in condemning to celibacy a man who does not carry into marriage such risks. Not only are the particular interests of the patient injured, but it is a distinct detriment to social morality to exclude from marriage men who are fitted for its obligations and duties and are free from disqualifying risks.

Upon this point Fournier says: "Take the case of a patient who, although having had syphilis formerly, is, nevertheless, by reason of the treatment he has undergone and present state of the diathesis, in a condition to contract marriage. The physician consulted in this case mistakes the situation of his patient and forbids marriage; consequence: Here is a man wrongly condemned to celibacy, banished from the virtuous life which he proposed to enter, and relegated to an irregular life with all the miseries, social or otherwise, which it entails. Here is a man whose future and whose heart are both broken by a medical decree that forces him to renounce a union likely to assure his position and his happiness. Here, at all events, is a man deprived of family life, deprived of those two things which, after the turbulence of the first years of foolish youth, become the objects of natural and universal aspiration—viz., home and children."

While it would be an error to exclude from marriage a man whose syphilis no longer carries with it risk to others, a mistake in the opposite direction would be a still more grievous error.

In deciding upon the admissibility of a syphilitic to marriage there are three orders of dangers to be considered:

1. Contagious risks to his wife.
2. Hereditary risks to his offspring.
3. Risks to his personal health.

The physician's decision, it will be seen, affects not only the interests of the patient, but the interests of the wife, the future children, the family, and society. The physician should appreciate the responsibility imposed upon him in being thus constituted the arbiter, so to speak, of so many destinies. In pronouncing upon a man's fitness for marriage he should consider it chiefly as a sanitary problem in which the danger of infection to others is the chief criterion of his decision.

CHAPTER XVII.

CONTAGIOUS RISKS TO THE WIFE.

SYPHILIS in women has the same significance, so far as dangers to her health and life are concerned, as syphilis in men, with the added danger which comes from the pathological accidents incident to bearing diseased children, and the fact that she very often is denied the benefits of prompt and efficient treatment.

FREQUENCY OF CONTAGION. All observation proves that a man who marries with a syphilis that is still in an active and contagious stage will almost certainly infect his wife. The experience of the medical profession affords abundant proof that conjugal contagions are much more common than is generally supposed, since the nature of the disease leads to concealment; the ill health, the abortions, the stillbirths, the sickly and degenerated children are set down to other causes, so that the laity have no suspicion of the actual social ravages of this disease. Fournier's general statistics, embracing all classes of women, show that one in every five syphilitic women contracted syphilis from their husbands soon after marriage. Among the married females in his private practice in 75 per cent. of the cases the disease was unmistakably traced to the husband. Bulkley's statistics in *Syphilis in the Innocent* state that in private practice fully 50 per cent. of the females with syphilis acquired it in

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a perfectly innocent manner, while in the married females 85 per cent. contracted it from their husbands.

In the report of the Committee of Seven, giving the source of infection in cases of syphilis in women occurring in private practice in this city, 30 to 60 per cent. was communicated by the husbands.

In the author's personal experience at the New York Hospital, investigation showed that 70 per cent. of the women who applied for treatment for syphilis were married and claimed to have received the disease from their husbands.

MODES OF INFECTION. The wife may be infected, first, through the contagious accidents which the syphilitic husband bears upon his person; second, she may become contaminated by the product of conception through the uteroplacental circulation (syphilis by conception). The foetus transmits to the mother the infectious germs which it receives from the father.

DIRECT INFECTION.

The husband may infect his wife in the usual, habitual way, through some contagious lesion of which he is the bearer. The wife may be exposed to contamination from a chancre which may have been contracted before marriage, and has not shown itself until after marriage, or which was contracted *post nuptias* in an extraconjugal exposure.

In many cases the chancre may be so insignificant that it escapes notice. Most men are ignorant of the period of incubation of primary syphilis and do not connect a minute papule or erosion with an intercourse they have had four or five weeks previously. Few men are so conscienceless

as to expose their wives to contamination from a chancre the fully developed nature of which is evident.

In marriage the vast majority of contagions are effected by the intermediary of secondary accidents. While many men are fully aware that the chancre is a source of contagion, they know nothing of the multitudinous methods of contagion independent of the chancre. After the chancre has healed they think that all danger of contagion is passed. They do not know that the slightest erosion, the minutest papule, may secrete a contagious secretion during an indefinite period; likewise that the smallest break in the continuity of the integument or mucous membrane, especially during the period when the blood is charged with the virulent elements of the disease, may prove a source of infection. Hence the great frequency of extragenital infections in married life through the intermediary of kissing, the common use of drinking or eating utensils, unconscious contacts from sleeping in the same bed, the common use of toilet or other miscellaneous articles, and the thousand and one contacts incident to a life in common.

SYPHILIS BY CONCEPTION.

The term conceptional syphilis is applied to a class of cases in which the mother is infected by the specifically diseased fœtus, procreated by a father who may be at the time exempt from any cutaneous or mucous membrane accidents and incapable himself of directly communicating the disease to his wife. The fœtus serves as the intermediary or agent for the transmission of the disease from the father to the mother. It thus appears that a syphilitic man may

be dangerous to his wife not only in the capacity of husband but as the father of her child.

This modification of the usual mode of syphilitic transmission furnishes an exception to the general law of the disease that every syphilis must have for its point of departure a chancre. In conceptional syphilis there is not, so far as can be determined, an initial lesion or bubo.

Diday, who investigated 26 cases coming under his personal observation, states that the most careful examination failed to discover the existence or trace of the initial lesion. In all cases the first symptoms appeared upon the general surface of the body. In 17 out of 26 cases the first crop of eruptive accidents did not embrace any genital, perigenital, or buccal lesions, that is, in regions accessible and most exposed to contact. In 10 cases the husbands had no lesions whatever; in 6 there was no mention of any; in 3 there were palmar and other lesions not contagious. In these cases the product of conception may present no visible signs of syphilis—the infant is rarely born with syphilitic lesions.

It may be conceived, however, that the chancre may exist, but, since in these cases its situation is within the uterine cavity and inaccessible to observation, its existence cannot be determined. It is probable, however, that the mechanism of the infection is similar to or identical with that which takes place in hereditary syphilis, which is also characterized by the absence of any demonstrable initial lesion. Hutchinson terms it fetal blood contamination. Experimental inoculations have shown that the sperm of syphilitics, like the other physiological secretions, is not susceptible of inoculation. A woman may be inundated with the sperm

of a syphilitic and remain healthy, but if one of her ovules be fecundated by this same sperm the virulent principle is kindled into activity in some mysterious and inexplicable way, and there is engendered a syphilitic being which, through the agency of the fetal blood, will contaminate the mother.

It is not proposed to discuss here the proposition, denied by certain authorities, that the syphilitic germs contained in the venous blood pass through the vascular part of the placental walls in the direction of the mother, and *vice versa*. The opponents of this theory contend that the placenta acts as a filter and prevents the passage of the contagious germs in the direction of the mother, while admitting that the infectious elements may pass from the mother to the foetus through the same channel. Leaving aside all theoretical considerations, the facts of observation point conclusively to this mode of contagion as furnishing the only possible explanation of cases where the mother shows signs of syphilis during pregnancy, or later, and the husband has not had for months previous to impregnation any contagious lesion upon his person. Clinical experience furnishes many authenticated cases of the following character:

A woman shows unmistakable evidences of syphilis, eruption, sore throat, alopecia, cephalalgia, etc., without giving the history of a chancre or adenopathy. An examination of the parts usually the seat of the chancre fails to reveal anything incriminating, and you obtain no independent history of these primary manifestations. The syphilis has made its *début d'emblee* in the full panoply of secondary manifestations. You examine the husband, who may tell you with truth that he has been free from any manifestations of the disease for many months previous; that he has exam-

ined himself daily with the most scrupulous care, appreciating his condition and the necessity of taking every precaution against infecting his wife. You have, then, a woman with syphilis who has never presented an initial lesion and, on the other hand, has been infected by her husband, who has been exempt for a long period before impregnation from any contagious lesion.

The key to this mystery is, quoting Fournier, as follows: "The woman becomes syphilitic in this manner, without initial lesion and without chancre, and becomes syphilitic from the contact of a husband exempt since his marriage from every contagious lesion. The woman is *enceinte*, and she has received the syphilis by conception. In such a situation pregnancy is never absent; the woman has received the syphilis, not from her husband, but from her child."

It will hardly be worth while to insist upon the actuality of *choc en retour* were it not denied by many writers. After all, there is nothing remarkable or incredible in this mode of infection. It is simply the analogue of the syphilis which is communicated through the uteroplacental circulation from the mother to the child. It is due to the same virus circulating through the same vessels, only in an opposite direction, from the child to the mother. As Fournier says: "If the fœtus is syphilitic, what is there impossible or extraordinary in its transmitting to its mother the disease during its intra-uterine life? If maternal syphilis has the power of reflecting itself upon the infant, why should not the syphilis of the infant reflect itself in like manner upon the mother?"

In the majority of cases conceptional syphilis is in the early and often during the entire secondary period a syphilis of essential benignity; many cases are entirely exempt from

generalized cutaneous and mucous membrane accidents which reveal a specific character.

In the beginning there may be malaise, loss of flesh, general ill health, often marked alopecia, without any disease of the scalp to account for it; hyperæsthesia, vasomotor troubles, hysteria, and other neuritic phenomena, cephalalgia, various algias, and rheumatoid pains. An apyretic rheumatism which yields readily to iodide of potassium is claimed to be one of the most characteristic features.

This exemption from the more characteristic manifestations of syphilis upon the skin and mucous membranes is thought to be due to the attenuation of the syphilitic virus in this special mode of venous infection through the placenta. So far as the child is concerned, the influence of the paternal infection is often fatal, resulting in its death and premature expulsion. The relative mildness of conceptional syphilis in the mother has been attributable to the more gradual syphilization effected through the exchange of morbid germs and their toxins. The infant, on the contrary, says Von Neissen, "suffers so much more from the syphilitic contagion, as this follows step by step the phases of the evolution of the organism in formation, which has no way of excretion than that toward the maternal circulation."

Barthelemy claims that conceptional syphilis shows itself veritably attenuated; after a variable number of years it may reveal itself by an accident incontestably tertiary.

This explains many cases of latent syphilis, syphilis *larvée et fruste*, in women who are without cutaneous or mucous membrane lesions, and who are not demonstrably syphilitic until after the advent of some tertiary accident. The tendency of syphilis contracted by fetal blood contami-

nation to remain latent for years without any symptom which can possibly be ascribed to syphilis, and is then manifested by tertiary accidents more or less severe, is confirmed by numerous observers. Fournier says: "I insist and I repeat that among women nothing is so frequent in practice as the tertiary accidents of syphilis contracted in marriage. I find them by hundreds in my hospital and private practice."

The significance of such accidents is aggravated by the fact that they are often encountered in virtuous, honorable, and respectable surroundings, where the presumptive evidence would disfavor the diagnosis of syphilis. Such a case recently came under my observation. A woman of twenty-eight had been married ten years to a man who claimed that he was pronounced free from syphilis and fit for marriage by his physician. One year after marriage a pregnancy resulted in a stillborn child. As the mother showed no signs of syphilis, she was not treated. Eight years later the disease was manifested by an enormous gumma affecting the frontal bone. It extended from above the eyebrow almost to the margin of the hairy scalp and from the median line to the temple. The external table of the bone was exposed and exfoliated, resulting in a horrible looking lesion which compelled her to live a life of complete seclusion and retirement. At no time had she a chancre or secondary manifestations of the general surface.

CHAPTER XVIII.

SYPHILITIC HEREDITY.

It is scarcely conceivable that a disease of so essential a diathetic nature, which so profoundly impresses the organism as to affect every constituent element of the body, and is capable of manifesting itself ten, fifteen, or twenty years after infection, should not exercise some influence upon the offspring. What might *a priori* be assumed from our knowledge of the general laws of heredity is amply confirmed by clinical experience. Observation shows that no disease is so surely transmissible to the descendants as syphilis of the parents.

In this connection it may be said that the procreative faculty is apparently not impaired by syphilitic disease. The specifically infected spermatozoön is not deprived of its fertilizing power. In cases where specific lesions are localized in the epididymis or testicles, with the production of azoöspemia, it has been found that the sterility thus occasioned disappears under the influence of specific treatment. When a woman becomes syphilitic her conceptional capacity is unimpaired. So far as can be determined, the uterus and ovaries are rarely affected by syphilitic lesions, with the exception of the os uteri, which is often the seat of the primary lesion. Indeed, it would appear that the reproductive organs of the woman as compared with other internal organs are singularly exempt from syphilitic

lesions. Puerperality undoubtedly determines exacerbations of the disease in a syphilitic woman. These exacerbations are doubtless the result of the anæmia, gastric troubles, and malnutrition incident to the puerperal state, which, like all depressant causes, render the system less capable of resisting the toxic power of the syphilitic virus.

Syphilis, then, is no bar to conception; on the contrary, the fecundity of syphilitic women is often surprising. Pregnancies follow abortion or premature delivery in quick succession, and the number of miscarriages observed in many syphilitic women is quite astonishing. Cases in which ten, fifteen, or even twenty or more pregnancies following in rapid succession have been observed. This is probably due to the fact that the period incident to carrying the child to full term and the period of nursing do not intervene between the pregnancies.

The transmission of the germs of syphilis by direct inheritance may take place through the specifically infected sperm or ovum at the time of impregnation, or through the uteroplacental circulation in the course of pregnancy. In the latter case the germs of the disease pass through the placental wall in the blood current. This mode of infection has been termed heredocontagion.

PATERNAL HEREDITY.

The syphilitic father may be dangerous to his offspring through the direct transmission of the germs of the disease in the process of procreation. The doctrine of the paternal transmission of syphilis, which was formulated by Paracelsus, seems to have been generally accepted until within

comparatively recent times. About the middle of the last century Cullerier, basing his conclusion upon his observation that syphilitic fathers sometimes procreate healthy children, denied the possibility of paternal agency in the transmission of syphilis, and upon this negative observation was based a doctrine eminently dangerous from a social point of view. His theory, *Pas de syphilis de l'enfant sans syphilis de la mere*, found many advocates.

Notta, Charriere, Mireure, and Oewre contended that syphilis could not be transmitted to the foetus *in utero* without preliminary infection of the mother.

As it is not intended to discuss doctrinal points in this study, these theories may be dismissed with the statement that the testimony brought to bear against them has convinced the most skeptical, so that to-day there is practically a unanimity of opinion upon the doctrine of the direct paternal transmission of syphilis without preliminary infection of the mother.

It is proper to state that clinical experience proves in an equally positive manner that men with syphilitic antecedents may marry and beget children free from any taint of the disease. Fournier, for example, reports 87 observations of syphilitic men who, having married, have never communicated the disease to their wives and, moreover, have begotten a total of 156 children absolutely healthy. An analysis of these statistics shows that only 20 of these 87 patients married before the fourth year; 49 of them after the fifth year, as follows: 11 after the fifth year; 10 after the sixth year; 4 after the seventh year; 8 after the eighth year; 6 after the ninth year; 2 after the tenth year; 4 after the eleventh year; 2 after the twelfth year; 1 after the

thirteenth year; 1 after the fourteenth year, and 1 after the fifteenth year.

It will be observed that in a large proportion of cases marriage took place after a period when all authorities agree that the transmissive power of the parent is minimized or reduced to *nil*. It is to be noted, however, that thirty-five of these patients developed specific accidents after marriage. While they communicated nothing to their wives and transmitted nothing hereditarily to their offspring, many of them were unfitted for marriage by reason of the personal consequences of the disease, such as functional troubles or serious infirmities which in some cases were the cause of death. These negative observations are, however, entirely valueless as a basis of estimating positive results. They only prove that there is nothing constant or inevitable in the hereditary transmission of syphilis.

Opposed to these observations showing that syphilitic men may procreate healthy children we have an overwhelming mass of clinical evidence proving in a most positive manner the paternal influence in the transmission of syphilis. In 43 out of 119 families, carefully observed during a number of years by Kassowitz, the fathers were syphilitic and the mothers showed absolutely no symptoms. The statistics of Mewes contain observation of 109 syphilitic children born of 108 mothers in whom no signs of syphilis could be found. Anton reports 70 births of syphilitic children, the mothers of fifteen certainly being free from syphilis. Hecker reports 50 cases of syphilitic children in which the mothers showed absolutely no symptoms. Fournier reports over 50 pregnancies terminating in abortion, stillbirth, death *in utero*, where the mothers were exempt from all signs of syphilis.

It would be easy to multiply statistics of a similar character from other competent observers testifying to the fact of the direct paternal infection of the offspring. There are well-authenticated cases on record showing that women who have borne tainted children of syphilitic fathers have afterward acquired the disease.

The numerical proportion in which paternal syphilis is transmitted to the offspring cannot be definitely stated. The hereditary influence is manifest in various forms and degrees of severity. When we come to consider the mortality of paternal syphilis we find so many cases have been recorded carefully that it may be said with approximate certainty the percentage of cases in which the syphilitic influence of the father kills the *fœtus in utero*, or in which the child dies immediately upon or soon after birth, is about 28.

Fournier's personal statistics of 200 cases occurring in private practice enable us to appreciate the influence of exclusive paternal heredity. What is of special interest in these observations is the fact that the statistics embrace cases in which the husbands were subjected to a long period of treatment before contracting marriage, and cases precisely the reverse in which the patients contracted marriage prematurely, that is, at a period more or less close to the initial contamination. In these 200 cases there were 403 pregnancies, and of this number 288 infants survived, while 115 either died *in utero* or a short time after birth. In round numbers, in 100 births there were 28 deaths, that is, one death in every four births.

When a syphilitic man marries in an active stage of the disease and his wife is fortunate enough to escape contagion, less than one out of every four of his children will survive.

This, however, does not take into consideration the bill of mortality of maternal syphilis when the mother has also been infected. It will be seen later that in the children who survive the paternal influence is especially manifest in the production of various degenerations and morbid states.

As regards the relative influence of the hereditary transmissive power of paternal and maternal syphilis, it must be admitted that the influence of paternal heredity is comparatively restricted. Hutchinson, who has always been a staunch advocate of the doctrine of the paternal transmission of syphilis, has gone farther than most authorities in attributing a greater influence to paternal than to maternal syphilis. More extended observation would seem to prove most conclusively that the influence of maternal syphilis is much more potent and intense than that of the father, and persists during a more prolonged period.

MATERNAL HEREDITY.

The influence of maternal syphilis alone, the woman being syphilitic and the father healthy, has but little practical interest in relation with marriage, as in the immense majority of cases the wife is infected by the husband, and in such cases it is mixed heredity that we have to deal with. Syphilis of the husband is incomparably the most common origin of hereditary syphilis in all classes of society, among the upper as well as lower; it is altogether exceptional that the wife receives infection from any other than her husband. Still, it may happen that a healthy man marries a syphilitic woman or a woman becomes syphilitic subsequent to the marriage, the husband remaining healthy. The class of

cases which affords the best opportunity of studying the exclusive influence of maternal heredity is that of the prostitutes. It is, however, important to determine the isolated influence of maternal syphilis as throwing light upon the extraordinary pathological impulse communicated to syphilitic heredity when the father and mother are both syphilitic.

As before observed, maternal heredity is infinitely more disastrous to the offspring than paternal heredity alone. It entails more than double the mortality. Sixty per cent. of the children born of syphilitic mothers die *in utero* or soon after birth, that is, out of every five children born of a syphilitic mother, three will die *in utero* or soon after birth, and only two will survive.

In his private practice Fournier found that of 85 pregnancies where the mother alone was syphilitic, 58 terminated by abortion, stillbirth, or moribund children; 27 terminated in children who survived. The records of the Lourcine Hospital, which refer almost exclusively to syphilis in prostitutes, show of 167 pregnancies coincident with maternal syphilis 145 which terminated fatally, while in only 22 did the infant survive; that is, only 1 child in 7 pregnancies.

Other statistics might be cited. Thus, Le Pileur shows that 414 births resulted in 295 deaths—almost 3 deaths in every 4 births.

POST-CONCEPTIONAL SYPHILIS.

Thus far we have considered the influence of maternal heredity when the woman is syphilitic at the date of impregnation. There is another phase of maternal heredity which has a direct bearing upon the dangers which threaten the

mother and her child from the syphilis of the husband. The man may directly infect his wife at any period during the course of pregnancy. The consequences to the child will be influenced largely by the epoch at which the infection takes place. There are a number of conditions pertaining to the state of the father which influence the result of post-conceptional syphilis:

First, both parents may be healthy at the date of conception; the husband, healthy at the date of conception, contracts syphilis afterward and communicates it to his wife directly, and the infection may be transmitted to the product of conception through maternal agency.

Second, the father may be syphilitic at the moment of conception and the mother be directly infected during the course of her pregnancy.

Third, the infection of the mother and impregnation may take place at the same time.

It is no longer doubted that the syphilitic virus may pass from the mother to the foetus, and in a contrary direction, through the vascular channels of the placental circulation. The difference in its effect upon the foetus varies according to the month of pregnancy in which the mother receives the infection. Adam Oewre claims that syphilis of the mother may infect the foetus at any month of pregnancy. The nearer the approach to birth, the feebler the infection is likely to be. He even urges premature artificial delivery when infection of the mother takes place after the seventh month, hoping in this way to save the infant from post-conceptional syphilis. Diday contended that syphilis is not contracted by the mother either in the first two months or the last two months of pregnancy, since the ovule during

the first forty days is to a certain degree independent in its nutrition. During the last two months the foetus also enjoys a high degree of autonomy. In the intermediate months infection is commonly communicated. The true explanation probably is that when the mother acquires syphilis in the seventh month of her pregnancy, the classical period of incubation of the disease (four weeks for the chancre and six weeks for the constitutional symptoms) intervenes before generalization of the virus takes place. The conditions, of course, are different in conceptional syphilis when the mother receives infection from the foetus, as the syphilitic sperm never causes primary syphilis; the chancre is always absent, and the disease is constitutional from the first.

While we do not know positively how soon post-conceptional syphilis may pass to the foetus, whether before or only after the period of secondary incubation, the general consensus of opinion among syphilographers is that syphilis acquired by the pregnant woman after the seventh month of pregnancy will be inoffensive to her offspring. As a result of the studies of numerous observers bearing upon the effect of post-conceptional syphilis upon the offspring, it may be formulated as a general rule that if a woman healthy at the date of conception becomes syphilitic in the first seven months of her pregnancy the chances are that she will abort or bear a tainted child. If the infection takes place in the last two months, the infant will escape infection.

GRAVITY. As regards the relative gravity of syphilitic heredity when communicated through the spermatocell, the ovule, or through the uteroplacental circulation, there does not seem to be a marked difference. When it is considered that the virulent principle of syphilis is being con-

stantly infused into the infant through the intimate process of circulation *a priori* we should not assume that the infection will be less grave or profound than that which proceeds from the more direct poisoning of the spermatic cell or ovule.

Neumann collected numerous statistics which positively demonstrate the pernicious influence of post-conceptional syphilis upon the offspring. There were 11 cases where the parents were both healthy at the date of conception and the father contracted syphilis and communicated it to his wife. In these 11 cases 6 children were born apparently free from syphilis, while 5 were undoubtedly syphilitic. In one of these cases there was post-natal infection of the child from a chancre of the umbilicus of the mother. He observes that there may be objections to his claim that the 6 cases which were free from syphilis at birth had escaped the disease, as they may have developed evidences of the infection later.

In a series of 15 cases where the father at the moment of conception was syphilitic and afterward infected the mother the following results were observed: The women infected at the second month gave birth to 3 dead children; infected at the third month, 4 deadborn children; infected at the fourth month, 1 syphilitic child and 2 healthy ones; infected at the fifth month, 5 deadborn children. The infection of the seventh, eighth, and ninth months gave 2 macerated children and one healthy child.

In 47 cases infection and conception were simultaneous. In these 15 children were healthy, 22 deadborn, 4 born syphilitic, 2 uncertain, and 4 still under observation. In other words, 26 were deadborn or syphilitic and 15 healthy, proving that children may be born healthy even if both parents are syphilitic.

MIXED HEREDITY.

Since a man who marries with an active syphilis rarely fails to infect his wife, the hereditary influence of both parents, or what is termed mixed heredity, is most common in married life. When the paternal influence becomes associated with the maternal influence through contamination of the wife, it acquires its maximum of intensity, and the consequences to the offspring of the infected couple are much more disastrous. As Fournier says: "The syphilitic father is dangerous to his children not only in his character of progenitor; he is and may become dangerous as husband to their mother; in other words, he may endanger them *through the syphilis which he runs the risk of communicating to his wife*. And when both the father and the mother become syphilitic, what must be the fate of the children issuing from this couple?"

All clinical observation proves that the influence of mixed heredity is positively murderous to the offspring. Fournier, basing his conclusions upon 1500 personal observations, concludes that mixed heredity furnishes the maximum mortality, viz., 68 per cent. In hospital practice it is much larger. In round numbers, a mortality of 60 to 86 per cent., varying somewhat according to material, social, and other conditions, represents the lethality caused by mixed heredity.

In reference to these statistics Fournier says: "Certain of my confrères have charged my statistics with exaggeration." They say "in reality syphilis is less murderous than you have advanced. Besides, you are not a good judge of the question, because naturally the grave cases go in your special service, while the medium or light cases, which are

altogether the most numerous, go elsewhere, and you do not see them." Thereupon he determined to take note of the results observed by his confrères, so that he finally compiled statistics of all the world, excluding his own. In these statistics he found that of 491 pregnancies observed in syphilitic families, one or both of the parents being syphilitic at the time, gave 77 per cent. of dead infants, a proportion which is even larger than that which his personal statistics furnish.

Fournier says: "It is by thousands we can produce cases where syphilis has killed one, two, three, four, five, or more infants in the same family. Numbers of cases can be cited in which the quotient of mortality rises higher and higher in certain families."

Examples:

Case of Dr. Behrend	8 deaths in 11 births.
" " " Turhmann	8 " " 11 "
" " " Comby	8 " " 11 "
" " Prof. Moncorvo	8 " " 9 "
" " Personal	8 " " 9 "
" " Dr. Pinard	9 " " 11 "
" " " Christian	9 " " 10 "
" " " Apert	9 " " 10 "
" " " Fuchs	10 " " 14 "
" " " Le Pileur	10 " " 11 "
" " " Bryant	11 " " 12 "
" " " Garré	11 " " 12 "
" " Personal	11 " " 16 "
" " Dr. Nobl	12 " " 15 "
" " Davis	15 " " 19 "
" " Personal	15 " " 16 "
" " Dr. Ribemont-Dessaignes .	18 " " 19 "

In addition there are numerous cases in which syphilis annihilates the posterity of certain families. The following, among hundreds of analogous cases, may be cited:

Observation of Bertin	4	deaths in	4	births.
" " Cazenave	4	" "	4	"
" " Dr. Artéaga	4	" "	4	"
" " " Orlowski	4	" "	4	"
" " " Legrand	4	" "	4	"
" " " Hutinel	4	" "	4	"
" " " Lemonnier	4	" "	4	"
" " " Perrin	4	" "	4	"
" " Personal	4	" "	4	"
" " "	4	" "	4	"
" " "	4	" "	4	"
" " Dr. Pinard	5	" "	5	"
" " " Hermet	5	" "	5	"
" " " Hélène Krykus	5	" "	5	"
" " Personal	5	" "	5	"
" " "	5	" "	5	"
" " Dr. Tanner	6	" "	6	"
" " " Troussseau	6	" "	6	"
" " " Tardiff	6	" "	6	"
" " " De Molénes	6	" "	6	"
" " Personal	6	" "	6	"
" " "	6	" "	6	"
" " Dr. Hudelo	7	" "	7	"
" " Personal	7	" "	7	"
" " "	7	" "	7	"
" " Dr. Erasmus Wilson	8	" "	8	"
" " " Christian	8	" "	8	"
" " " Bar	10	" "	10	"
" " " Porak	11	" "	11	"

It is to be observed that the hereditary influence of syphilis varies appreciably according to social surroundings. In private practice the mortality of infants born of syphilitic mothers is from 60 to 65 per cent. In hospital practice it is elevated to 84 or 86 per cent.

The influence of mixed heredity is not only manifest in the birth of dead or moribund children, but also in the production of children who inherit the disease, but in whom there is as a rule no manifestation before the second or third week, or in some cases not until the third month. In other cases the infant survives several years, it may be, until the period of second dentition, or even the period of adolescence, and then becomes affected with lesions which come under the category of late hereditary syphilis and which are not infrequently the cause of death.

CHAPTER XIX.

HEREDITARY RISKS TO THE OFFSPRING.

THE FATE OF SYPHILITIC CHILDREN.

WHILE death *in utero* may occur as the most habitual expression of hereditary syphilis, its lethal influence is not limited to the period of intrauterine existence. The child may be born alive, but in many cases the sentence of death is not commuted; it is simply granted a reprieve—it may be a few months, weeks, or only days. If we add to the bill of mortality of hereditary syphilis the children that die from its effects soon after they are born, or within a few months, we shall find that it often decimates or extinguishes *in toto* the posterity of many families. Fully one-third of all syphilitic children born alive die within the first six months. The influence of inherited syphilis is expressed in one word—polylethality.

In the obscure phases of its intrauterine existence certain pathological modifications take place in the organs of the foetus, the nature of which cannot always be determined. There may be diffuse infiltrations or gummatous deposits in the organs most essential to life—the lungs, the liver, the nerve centres, etc. Very often lesions of the osseous system are the only evidences of inherited disease manifest at birth. Hepatic lesions constitute a prolific cause of death of syphilitic children. Lesions of the nerve centres figure largely in the causes of mortality. In running over the

category of the causes of death one is impressed with the number of syphilitic children that die from convulsions.

1. The syphilitic child may be born alive with characteristic evidence of syphilitic taint.

2. It may be born apparently healthy, and after a certain period, usually within a few weeks or months, may begin to show the stigmata of the parental disease.

It would be premature, therefore, to conclude that apparently healthy infants have escaped the parental disease. In the immense majority of cases infants with syphilitic taint will manifest the disease before the third month, even as early as the first or second month. It rarely appears, however, before the second or third week.

One of the earliest and most characteristic manifestations of hereditary syphilis are bullous lesions of the palms and soles. Pemphigus may even be present at birth; it always carries with it a grave prognosis, since very often it is associated with visceral lesions. In general, it may be said that the more precocious the cutaneous accidents, the more unfavorable the prognosis, while the longer the delay in the appearance of the first symptoms after birth, the more favorable the prognosis as regards the ultimate survival of the child.

Syphilitic coryza, resulting in the condition known as the "snuffles," is one of the early manifestations. It is not only pathognomonic of the disease, but carries with it a certain significance, as the obstruction of the nostrils may be so complete as to prevent the child from nursing.

It is not intended to give in detail the symptomatology of hereditary syphilis, but only to indicate the general characteristics of the disease. The superficial surface accidents

of hereditary syphilis, like those of the secondary stage of the acquired form, are at first generalized and diffused. Later they become more discrete, with a tendency to localize themselves in certain regions. The outbreaks are separated by certain intervals, and after the first year or two they may cease altogether. On account of the delicacy of the skin, papules are quickly transformed into mucous patches. Fissures or condylomatous lesions about the mouth, anus, and genital region are much more common in the infant.

The lesions of the viscera often coexist with the earliest cutaneous manifestations. They consist chiefly of diffuse infiltrations of the connective tissue of the organs. While they present no essential difference in anatomical structure from those due to acquired syphilis, they possess a much graver clinical significance, as they are frequently the cause of death or confirmed debility.

The old conception of hereditary syphilis was that the force of the disease was exhausted during the first two or three years of infantile life and that its influence was rarely manifest after the second dentition. It was laid down as a general rule that if there were no unequivocal manifestations of the disease during the first year it might be assumed that the child has escaped contamination. Unfortunately, this favorable prognosis is found to be as deceptive as it is premature. Like its congener, conceptional syphilis, hereditary syphilis may remain latent for the first two or three years, and then reveal itself by localized lesions of the tertiary order.

Chiefly through the investigations of Fournier, Hutchinson, and others, our conception of hereditary syphilis has entirely changed. Not only has it been shown that the

influence of the diathesis may be manifest in the production of various forms of specific accidents up to a more or less advanced period of life, but also that certain hereditary morbid states, formerly referred to scrofula or tuberculosis as the generating cause, are really the expression of the syphilitic diathesis. To Fournier is due the credit of first studying these obscure and remote phases of hereditary syphilis in a scientific manner and clearly pointing out the exterior signs upon which the diagnosis of late hereditary syphilis is based. It is impossible for anyone to write on hereditary syphilis without recognizing his indebtedness to the distinguished pioneer in this field of investigation, and we would refer to his work, *La Syphilis Héritaire Tardive*, for more exhaustive details of the pathology and symptomatology of late hereditary syphilis.

We now recognize that even if the syphilitic child has escaped the early manifestations of the disease, it may be doomed to the lesions of late hereditary syphilis, which are especially liable to appear at the period of second dentition, the period of puberty, the twentieth or thirtieth year, or even later.

Hereditary syphilis is further differentiated from the acquired form by certain lesions which are its exclusive products. In their essential nature they are not, properly speaking, syphilitic, but are the results of changes impressed upon the fœtus in its formative or developmental stage. They may be considered anomalies of physical evolution which take on the characters of dystrophies or degenerations due to perversion of nutrition. These dystrophies may affect the entire being or may be limited to a single organ or system of organs.

In the first group may be placed dystrophies of a constitutional nature which affect the general health or vital capacity of the infant. The influence of syphilitic heredity is often manifest in a native debility or inherent incapacity for life. The child, separated from the maternal stem, from which it derived its life and sustenance, is incapable of supporting an independent existence. There is an insufficiency of vital power, so that the child wilts or dies from a lack of sufficient force to maintain life. It succumbs from slight causes, often without any apparent cause. It dies without disease, so to speak, and the autopsy reveals nothing that can be assigned as the cause of death.

The facies and general appearance of the infant indicate this inherent weakness. It is small, weak, and puny, poorly developed. It does not fill out the cutaneous envelope. The skin is loose and can be gathered up in folds in certain regions. The hair is scanty and the nails undeveloped. It has a peculiar aged appearance—the “old-man” look, as it is termed—which is quite pathognomonic. Such children show in their stunted frames the grayish or earthy tint of their complexion, their feeble movements in nursing, their incapacity for sustaining life. They show a diminished capacity of resistance to ordinary infantile diseases which are not of a serious or grave nature. They are the subjects of what may be termed sudden, inexplicable death.

A second type is that which is characterized by a slowness or retardation of development. They grow slowly; they walk, speak, and develop their teeth slowly. Their physical development is in marked contrast with their age. They seem to remain long in a state of infancy. The hair, testicles, bosoms, etc., at the age of puberty are undeveloped. Intel-

lectual development is likewise retarded. The child is apt to be slow in learning, either from congenital deficiency of mind or from a kind of intellectual asthenia. The term *infantilism* has been used to express the sum total of these characteristics.

Another type is that of the rachitic, with large head occupied by bossy growths, incurvation of the tibia, pigeon-breast malformation of the thorax, curved spine, deformed pelvis, etc. No one doubts at the present day that rickets is closely allied to heredosyphilis as a frequent cause. The anomalies of particular organs would require too much space to mention in detail.

These dystrophies affect the teeth, the maxillary bones, produce cranial malformations of varied types, asymmetry of the cranium, hydrocephalus, microcephalus, etc.; nasal, ocular, and auricular dystrophies; dystrophies affecting the spine (scoliosis, spina bifida); dystrophies of the trunk and limbs are numerous and varied; pelvic deformities, congenital dislocation of the hip, clubfoot, with a vast number of deformities of the bones of the members; both the head and shaft of the long bones may be tumefied, hypertrophic, and covered with nodosities of the surface; cerebral and medullary dystrophies, resulting in deaf-mutism; cardiac and vascular dystrophies, causing cyanosis and disturbances of the vascular system; genito-urinary dystrophies, such as uterine and ovarian malformations, infantile testicles. The testicles of heredosyphilitic children are frequently the seat of the disease, so that when an infant presents testicles which are voluminous, hard, and painless on pressure, one may almost affirm that it is due to hereditary syphilis.

There is another group of dystrophies in which there is

manifest so marked a deviation from the normal type that the result is a monstrosity. Edmond Fournier has collected 23 cases of this character from the best authenticated sources, and the fact that syphilis does produce monstrosities by an exaggeration of anomalies of physical evolution may be considered incontestable. Fournier terms such cases an exaggeration or amplification of dystrophies.

It will thus be seen that syphilis is a most powerful factor not only in the depopulation but also in the degeneration of the race.

CHAPTER XX.

RISKS TO THE OFFSPRING OF HEREDOSYPHILITICS.

TRANSMISSIBILITY OF SYPHILIS TO THE THIRD GENERATION.

WHAT BECOMES OF THE DESCENDANTS OF HEREDOSYPHILITICS? It has been seen that the large majority of the subjects of inherited syphilis die *in utero*. A certain contingent are born viable. Of these fully one-third die within the first six months; still a small remnant, after running the gauntlet of pathological risks incident to precocious and late hereditary syphilis, reach maturity. While a certain proportion of heredosyphilitics are sterile, on the other hand, the greater number are capable of procreating children.

It is generally recognized that a certain number of heredosyphilitics are incapable of propagating their species from organic defects. The sexual dystrophies of hereditary syphilis exercise an inhibitory influence upon the procreative capacity. Tarnowski found in 74 heredosyphilitics 7 persons, 4 men and 3 women, or 10.4 per cent., in whom there were sexual dystrophies which made them inapt to perpetuate their race. In the women these dystrophies consisted in a rudimentary development of the uterus; in the men there was either azoöspemia, complete frigidity, or (in 2 cases) sexual perversion.

IN PERPETUATING THEIR SPECIES DO HEREDOSYPHILITICS PERPETUATE THE DIATHESIS WHICH THEY HAVE INHERITED? The doctrine of the transmission of syphilis to the third generation is still *sub judice*. Theoretically there is nothing impossible in this doctrine in view of the long persistence of the transmissive power of maternal heredity, which may be manifest as late as the fifteenth or even the twentieth year. This theory would imply the persistence of the virulent principle of syphilis up to the age of puberty or later.

Nothing is more certain than that the cutaneous and mucous accidents of hereditary syphilis are eminently contagious. How long this active contagiousness persists has not been definitely determined. From the fact that mucous patches are rarely seen after the third or fourth year, and never occur after the tenth year in hereditary syphilis, it would seem hardly probable that the virulent principle is conserved in full activity after this period is passed. Further, we know that hereditary syphilis, like the acquired form, confers an immunity against reinfection. In the hereditary form it would appear that this initial immunity gradually loses its force and in many cases is extinguished at the age of puberty or the twentieth year.

There is a general consensus of opinion among syphilographers that the subjects of hereditary syphilis gradually acquire a susceptibility to the contagion of syphilis and are capable of contracting the disease from a new infection. But this susceptibility to reinfection does not necessarily imply the diathesis is so completely extinguished that it is incapable of transmitting hereditarily certain specific qualities of the progenitor.

In the solution of this problem, as of many other problems connected with syphilis, clinical experience is the final test to which we must appeal. There is no question that dystrophies and organic defects inherited by the second generation are passed on to the third; that syphilis may have as remote hereditary consequences diverse dystrophies, some of which are the analogues of what has already been described as characteristic of hereditary syphilis, others of a different type and modality, has been well attested by Barthelemy, Tarnowski, Jullien, Jacquet, Edmond Fournier, and others. The identity of these accidents in the second and third generation would indicate that they must be referred to a common etiological factor. The following illustrative cases may be quoted:

1. Four infants born of a healthy father and a mother heredosyphilitic. All four are afflicted with rickets in a high degree, curvature of the bones, malformation of the cranium, etc.; besides one of them is an idiot (Gilbert).

2. The issues of a healthy man and a heredosyphilitic mother were four pregnancies, resulting as follows: 1 premature birth; 2 infants deadborn; the last pregnancy brought forth a monster literally covered with deformities—a double harelip, absence of soft palate, deformed ears, clubfoot, malformations of the fingers and toes, imperforation of the urethra, articular malformations, nævi, etc. (Cauvet).

3. Fourteen pregnancies resulted in a family where a healthy woman is united to a husband heredosyphilitic: 6 children deadborn, 5 by abortion; 5 affected with cerebral troubles; 1 feeble-minded; 2 affected with dental dystrophies (Fournier).

From a clinical standpoint we have the most overwhelming testimony that the children of heredosyphilitics suffer from the same class of casualties as primary heredity entails—deaths *in utero*, stillbirths, dystrophies of various kinds.

Fournier reports 34 pregnancies in families where one of the conjoints, most often the father, was affected with heredosyphilis. There were 11 abortions, 3 premature births and 4 in which death followed shortly after birth, giving a mortality of 53 per cent. He gives a further table of 81 pregnancies in families where one of the parents had heredosyphilis, resulting in 28 abortions, 13 premature births, 7 dying soon after birth, with only 33 surviving, giving a mortality of 59 per cent.

Jullien has collected a table of 94 cases in which one or both parents was heredosyphilitic. The number of pregnancies was 256; abortions and stillborn children, 77; living children, 179, a mortality of 30 per cent.

The descendants of heredosyphilitics, according to Barthelmy, are fragile, debilitated, the flesh soft, the nails thin, the hair scanty, the teeth small and of little resistance; the bones of all the skeleton are small, thin, and fragile; the cranium is irregular and bosselated; the nervous system participates in the general dystrophy; the growth is retarded, and the general condition remains puerile.

It is thus established beyond possibility of doubt that heredosyphilis may react upon the product of conception and constitute a predisposition to abortion or the birth of children deadborn or destined to an early death, with the production of dystrophies of diverse character. The only question is whether these effects upon the descendants are the expression of heredosyphilis or acquired syphilis. The

fact that a heredosyphilitic may acquire the disease in adult life introduces an element of confusion. The demonstration that syphilis may be transmitted to the third generation without the intervention of acquired syphilis must be based upon certain conditions: First, the positive proof that one of the progenitors is a heredosyphilitic. Second, the hereditary nature of the syphilis of the third generation should be well established. The possibility of one of the progenitors having acquired syphilis should be entirely excluded.

Hutchinson asserts that all the observations relating to the transmission of syphilis to the third generation are surrounded by a halo of improbability. "They are so few and so beset with fallacies that we ought probably to discredit them."

Edmond Fournier has collected eighteen observations which he declares to be complete and irreproachable and in which the condition of the grandparents, the parents, and the descendants was distinctly known. In these eighteen families there were 83 pregnancies, 2 of which were twins, which terminated as follows: 23 abortions, 2 of which were twins; 30 infants born dead or dying within the first few weeks; 30 living children.

In another table giving the issue of 46 families of heredosyphilitics there were 145 pregnancies terminating in 45 abortions, 35 infants deadborn or dying at an early age, 65 living infants. Among the 65 living children he found the same kind of dystrophies as characterize hereditary syphilis in the second generation.

While we cannot conclude that syphilis is transmitted to the third generation in its essential nature, containing its virulent principle charged with contagious activity, conferring

an immunity against infection and susceptible of being transmitted to the fourth generation, yet there can be no question that heredosyphilis kills the product of conception, transmits to the survivor an impaired vitality, with various dystrophies and degenerative changes.

HEREDOSYPHILIS AND MARRIAGE.

The physician may be consulted in relation to marriage by a man or woman the subject of heredosyphilis. This class of cases is, however, comparatively rare. The subjects of hereditary syphilis fortunately have few chances of perpetuating their species. Only a remnant arrive at the age of maturity. Rudimentary development or dystrophies of the sexual organs still further diminish the contingent of those who are apt for procreation.

The nature of the hereditary antecedents may be manifested by specific stigmata of the disease, which are readily recognized, such as the cicatrices of deep cutaneous ulcerations, malformations of the bones, defects or peculiarities of implantation of the teeth, the remains of a specific keratitis, etc., or even by some active lesion still present. In this class of cases there is no question of any contagious risks to the partner that the heredosyphilitic may carry into marriage. So far as we know there is no authenticated record of direct contagion communicated by a heredosyphilitic at the marriageable age. There is, however, the serious question of possible risks to the offspring.

The doctrine of the transmission of syphilis to the third generation has already been considered and the conclusion reached that while hereditary syphilis may not be trans-

mitted in its essential quality, capable of carrying contagion to others, yet the inherited constitutional state, certain organic defects and dystrophies were undoubtedly susceptible of transmission to the offspring. Well-authenticated clinical observations show in the most positive manner that the influence of heredosyphilis in determining abortions, still-born children, and various dystrophies is scarcely less marked than that of syphilis directly acquired. It would seem that while the contagious activity is entirely extinguished, the nutritive disturbances set up in an organ or system of organs of the progenitors may be handed down to the offspring.

In cases where the influence of the hereditary disease has been so slight as to leave no permanent impress in the shape of defects or dystrophies of important organs, and when the patient appears possessed of good physical stamina, there can be no valid objection to the marriage, especially if his proposed partner is healthy.

In the majority of cases these favorable conditions are not found in heredosyphilitics, and the physician should earnestly endeavor to dissuade them from any matrimonial projects they may entertain, in their interests as well as that of their offspring. It is not to the advantage of the State to have as future citizens individuals who are stamped with inferiority and who bear the impress of degeneracy, physical or mental. Tarnowsky claims that in certain rural localities in Russia where syphilis constitutes an endemic disease, 75 per cent. is transmitted in family life and that the marriage of heredosyphilitics is one of the principal causes of degeneration of the population.

CHAPTER XXI.

CONDITIONS OF ADMISSIBILITY OF THE SYPHILITIC TO MARRIAGE.

WHEN the physician is consulted by a man with syphilis in regard to his matrimonial projects he should look upon the question of the proposed marriage purely as a sanitary problem, the only safe solution of which is that the man should not marry so long as he is capable of infecting his wife or begetting syphilitic children. The physician's knowledge of the disease enables him to foresee that both these eventualities are not only probable but almost certain if marriage is prematurely contracted. Every interest personal to the patient should be subordinated to the sanitary interests of which he assumes charge.

Most often the patient is ignorant of many facts concerning the nature and characteristics of the disease which it is important for him to know. The physician should enlighten him as to the modes of contagion, its possible dangers to others, and should plainly set forth what he may expect and what he has to fear.

He can assure him with all positiveness that during a certain period the disease is contagious, infallibly contagious when brought into inoculative contact with a healthy individual; that such and such accidents may be suppressed or rendered momentarily innocuous by appropriate treatment, but that there is a liability to their recurrence whatever the

treatment employed. Further, that during a certain period his disease is transmissible by inheritance, and he is liable to beget tainted children, but that after this perilous period is passed neither his wife nor children will be menaced by the disease, and he can safely become a husband and a father; that for the determination of the precise limits of this period of probation a prolonged observation of the course and characters of the disease and the modifying and corrective influence of time and treatment are essential.

IMPORTANCE OF CORRECT DIAGNOSIS. Before studying in detail the conditions of admissibility of a syphilitic man to marriage it may be well to bear in mind that not every man who consults the physician under such circumstances has syphilis. A correct diagnosis is of the first and most essential importance. It cannot be too strongly impressed upon the physician that it is almost as great a social damage to pronounce a man syphilitic who is not, as to declare him free from syphilis when he has it, to allow him to go without treatment, and to sanction a step which may result in numerous contaminations.

A man may present himself with a venereal sore and ask the physician's advice as to his proposed marriage, say in three or six months. Evidently, if this sore is a simple chancre, the interdiction of marriage need be only temporary. On the contrary, if it is the initial lesion of syphilis, the period of delay will necessarily be more prolonged; professional sanction of his early marriage would be impossible.

Now, the differential diagnosis of chancre and chancroid upon the first appearance of the lesion may be extremely difficult or, in certain cases, impossible. Ordinarily when the history of the date of exposure can be definitely fixed

and the period of incubation determined, the objective appearances of the sore, the induration, the presence or absence of the characteristic adenopathy, form the elements of a reasonably positive diagnosis; but observation proves that these clinical signs may fail or be incomplete.

Confrontation is rarely practicable, and in the case of promiscuous intercourse is worthless. Then the possibility of mediate contagion, when the woman suspected may act as the conveyer of the contagion without herself being infected, the poison being derived from previous contact with a diseased person, must be considered. Many accidental elements may be added that further complicate the uncertainty. There are so many possible sources of error that the most experienced physician cannot always pronounce positively upon the syphilitic nature of a venereal sore upon its first appearance. The element of time is essential; with the development of specific induration and the characteristic adenopathy the doubt is converted into a reasonable certainty, but this is not positive until the advent of constitutional symptoms.

Still more difficult is the retrospective diagnosis of syphilis in the absence of specific manifestations. A patient may come with this history: "I had a sore several months ago, of the nature of which the doctor was at first doubtful, but later pronounced it a chancre. He gave me mercury, which I took for three or four months, and nothing appeared. The doctor admits that he may have been mistaken, and I am sure that he was. I want your opinion."

Time and time again the specialist is consulted by patients with a similar history and asked to give a positive opinion as to whether they have syphilis. The difficulty of diagnosis

is complicated by the fact that we are compelled to form an opinion upon that most unreliable evidence, the patient's statement, who may have been a careless observer or who in his desire to be pronounced free from syphilis suppresses important details. Even with the most honest intentions he may give misleading evidence. His statement that he had no symptoms should not be implicitly trusted. A syphilitic roseola situated on portions of the body habitually covered with the clothing and which gave rise to no subjective symptoms may have passed unperceived. A syphilitic angina may have been mistaken for an ordinary sore throat due to cold or exposure. Alopecia may have been but slightly pronounced. In fact, all the early secondary symptoms of a mild syphilis may have passed unperceived or their true nature unrecognized. The specific adenopathy may have been absent or have cleared up at the time of consultation.

Then, again, the precocious use of mercury has possibly introduced an element of confusion by suppressing the secondary symptoms or deranging the order of their appearance. In such cases the nature of the disease is indeterminate, and it may require a great deal of diplomacy and firmness to induce the patient to await the period of observation necessary to clear up the diagnosis. The physician should frankly state the reason of his hesitation, and, however vexatious this period of uncertainty may be to the patient under the particular circumstances, he should be urged to await the necessary period of expectation.

The author has now under observation a patient who consulted him two years ago with a history that his physician treated him for what was thought to be a simple chancre. According to his statement, no eruption appeared upon the

body. A few months later he had one or two patches in his mouth which his physician upon examination thought were due to the condition of his stomach. They disappeared under a simple boric acid solution. With his physician's sanction he engaged himself to be married. Careful examination showed no indication of syphilis. There were absolutely no incriminating evidences of the disease present. He was assured that it was impossible to say whether he had syphilis or not, and a period of delay was advised, which would give an opportunity for observation. Contrary to my advice, he married at the time appointed. Three months after marriage he presented himself with mucous patches of the tongue, recurrences of which have taken place at intervals ever since. By following the advice to take an active course of specific treatment, to have his patches promptly cauterized and destroyed upon their first appearance, to avoid kissing his wife or using the same drinking and eating utensils, and to avoid impregnation, his wife has thus far escaped contamination.

The eruption caused by the use of iodide of potassium may simulate syphilis. The injudicious and precocious employment of the iodide is responsible for many mistakes of this character. Iodic eruptions closely resemble those of syphilis. As Hutchinson says, "Not even the syphilitic virus itself is capable of producing a greater multiplicity of pathological changes in the integument." Numerous cases have come under the author's observation where the symptoms of a supposed syphilis had been caused by the drug administered for its cure. Ordinarily, when the patient has been under the physician's charge from the first, mistakes of the above character are hardly possible.

In most cases when the physician is consulted the patient is indubitably syphilitic, and the only question is the determination of the period of delay before professional sanction can be given. If the patient is engaged to be married the postponement of his matrimonial projects may be of the most momentous significance to him. All of the possibilities of happiness promised by marriage seem to him forfeited by a delay which is often equivalent to a definite breaking off of the engagement. He sees no way of honorable retreat, no explanation that explains why he should not fulfil his engagement. No wonder that the patient under such circumstances is plunged into a state of profound discouragement and despair, that he talks of taking desperate measures, of suicide, as the only solution of the difficulty. The experienced physician knows that he will do nothing of the kind; that it is far more likely that he will marry and take the chances—or, rather, expose his wife to the chances of contracting his disease. To prevent this catastrophe, to preserve the wife and future children from infection, is the greatest service that the physician can render society.

Since the physician has no coercive authority, he must depend largely upon the persuasive force of enlightenment and the intelligent adaptation of this persuasive force to the motives to which he can most effectively appeal. The physician must study and be guided by all the circumstances of each particular case, the temperament, the mental capacity, the impressionability, and the moral qualities of the patient. In the exercise of this duty firmness should be united with a kindly sympathy, the more especially as he is often the only confidant as well as the only person who can offer consolation. Many of these patients are entitled to sympathy. At

the present day the physician does not look upon syphilis as necessarily the merited punishment for sin. No one knows better than he that "the mills of the gods" in grinding out syphilis bestow it in a most unequal measure. It is not dealt out in direct proportion to deserts or merits; the greatest sinners are by no means the greatest sufferers. It is the ignorant and the tyro in dissipation who falls a victim where the experienced and practised libertine escapes.

While the physician may be justified in giving every encouragement as to the ultimate results, the practical certainty of cure, and the assurance that after a certain period the ban of the disease will be removed, when it comes to indicating the limits of this period it is neither prudent nor wise that he should be too explicit. It is better to temporize or deal in vague and ambiguous terms. The physician should at first rather indicate a certain number of months as the least time necessary and assure the patient that after opportunity has been afforded for the observation of the course and character of the disease he will be better able to judge of the time-limit. It is always easier to abridge than it is to lengthen the prescribed period of probation.

In deciding upon the admissibility of the syphilitic man to marriage we have seen that there are three orders of dangers to be considered, viz., contagious risks to the wife, hereditary risks to the offspring, and the personal risks of the prospective husband from the disease. It may now be inquired what is the duration of the period during which the syphilitic is the bearer of contagious risk or capable of transmitting the disease to his children? The personal risks from the disease which disqualify a syphilitic for marriage constitute as a rule an express, permanent contraindication to marriage.

CHAPTER XXII.

DURATION OF THE CONTAGIOUS AND TRANSMISSIVE PERIODS.

No fact is better established by clinical observation than that the two essential characters of syphilis—its contagiousness and its susceptibility of hereditary transmission—are not impressed upon the syphilitic organism during the entire course of the disease. When the virus has disappeared from the morbid products the syphilitic is inoffensive to those who surround him and to his offspring. As syphilis advances in its evolution the virulent principle gradually loses its force, becomes exhausted, and finally extinct. In other words, the older the syphilis, the less dangerous from a pathological as well as social point of view. Contagious activity and hereditary transmissibility are not synonymous, since a man with a syphilis which is actively contagious may procreate healthy children. On the other hand, a man may beget syphilitic children after he has ceased to have contagious accidents. While there is a certain correlation between the coefficient of the virulence which conveys acquired and that of the virulence which creates hereditary syphilis, they are not absolutely identical, and it is better to consider them separately.

What is the duration of the contagious period of syphilis? It begins with the chancre; when does it cease?

In the determination of this question the researches of bacteriology cannot be invoked as to the presence or absence

of the specific germ. Histological examination of the morbid products of syphilis throws no light upon the question. In the absence of scientifically accurate tests we are compelled to rely upon experimental methods. That syphilis does lose its initial quality of contagiousness is established by both experimental and clinical proof. For obvious reasons experimental methods by inoculating the products of syphilitic lesions are not permissible at the present time, although they were practised extensively in former days, with results sufficiently exact to demonstrate that the blood and the secondary lesions of syphilis were contagious and inoculable during the period of the first two years or more. These experiments were not of a nature to show the absolute innocuousness of lesions of the later tertiary stage, nor yet of lesions tertiary in form but precociously developed; so that these experimental proofs cannot be relied upon to indicate the extreme limit of the duration of contagion. Clinical experience is the surest basis of appreciation. To this may be added our knowledge of the general pathological laws of the disease.

In the ordinary evolution of syphilis its manifestations develop with a certain order or regularity not absolutely constant, but sufficiently uniform to permit of its division into periods or stages. As the disease grows older what are termed the secondary accidents succeed each other at longer and longer intervals, finally disappear completely, and are not again reproduced.

Syphilis does not always pursue this methodic evolution. Secondary accidents may continue to recur long after the completion of the secondary stage, while accidents tertiary in form may develop within a few months after the chancre.

No one would be justified in assuming that these precocious tertiary lesions are devoid of virulence.

Then, again, syphilis exhibits the greatest variation in type, in the multiplicity, succession, and duration of its surface accidents. They are often impressed with a remarkable persistence and obstinacy to treatment. In many cases mucous patches, which serve as the most common source of contagion in the intimate relations of married life, especially as their site of predilection is the mouth and genital region, may show a tendency to multiply and continually recur during a prolonged period—three, four, or five years, or even longer. These irregular manifestations or deviations from the typical mode of syphilitic evolution introduces an element of confusion and set at naught any attempt at prevision.

It has been formulated, as a general rule, that secondary accidents are contagious and tertiary products are not, and that after the chronological completion of the second stage the disease is no longer dangerous as a source of contagion. This generalization is, however, entirely unwarranted, as clinical experience shows conclusively that late lesions of the papular type, although secondary in form, are, chronologically, distinctly tertiary, and may still convey syphilis.

When we are asked to fix upon the date, the month, or year when the syphilitic diathesis undergoes that transformation which marks the limit of its contagious activity, or to indicate the signs which reveal it, we are forced to admit that it is not susceptible of mathematical formulation. Many circumstances contribute to advance or defer it. Not only the type of the disease, but conditions relating to the individual peculiarities of the patient, the corrective effect of

treatment, as well as the attenuating influence of time, all enter as modifying factors. It is possible, however, through a careful study of these conditions in each individual case to fix a time-limit when it is safe for a syphilitic man to marry, but it is not a formula based upon certainty, but rather upon a calculation of probabilities.

The facts of observation show that when contagious accidents have disappeared completely and have ceased to develop during a prolonged period, they are not liable to again recur. Fortunately, we can judge from the character and course of the syphilis and its tendency to recurrences whether a patient after a given date is liable to have a repetition of these lesions.

Diday lays down as a result of large clinical observation the general rule that in the case of a mild syphilis if a period of 292 days follows the period of the last accidents, or, in the case of a severe syphilis, a period of 308 days, without any recurrence of the accidents, they will not again be reproduced. Unfortunately, there are objections to this measured spacing of accidents; but it is a fact attested by the experience of all syphilographers that if a man with a syphilis of average intensity has been treated during the first two and a half or three years, and a period of twelve or eighteen months then elapses without a return of these accidents, they are not liable to be again reproduced. So that a compliance with these conditions offers a reasonably safe guarantee that the individual is no longer contagious. Even when the evolutionary mode of syphilis is expressed in recurring mucous patches which show a tendency to keep coming out almost indefinitely and with an exasperating tenacity, in such cases when the morbid habit of the

diathesis is broken up by time and treatment, and an exemption for twelve or eighteen months is secured, it is not likely to be re-established.

The general rule which may be formulated, then, as safe for a syphilitic man to marry, so far as contagious risks to his wife are concerned, is that a period of four years should have elapsed since the chancre; that he should have been free from manifestations during the last twelve or eighteen months of this period, and that he should have received sufficient specific treatment. Such a rule has been demonstrated by a large clinical experience to be perfectly safe to be applied as a working formula, and the man who has fulfilled these conditions may be accepted as a safe risk in marriage, exceptions being made of certain risks relating to his personal health which constitute express contraindications to marriage.

In formulating such a rule the fact is not to be lost sight of that there are many well-authenticated observations, showing that lesions of the papular type may convey syphilis five, six, or even ten years after the chancre. Almost all of these recorded cases of late conjugal contamination were through buccal syphilides.

Fournier has recorded cases in which syphilis was conveyed from the husband to the wife in the fourth, fifth, and sixth years after marriage. Mauriac records personal observations of late contagious lesions occurring in the fifth, sixth, or seventh year of syphilis in patients who still presented mucous patches.

Now, it is by no means to be inferred from these most authentic but still altogether exceptional examples of the prolonged virulence of late accidents that it is necessary to

delay the period of probation of marriage to the fifth, sixth, or seventh year after the début of the disease. It is probable that in all these cases the two essential conditions, sufficient treatment and prolonged exemption from these accidents during the period of eighteen months, were not complied with. Such cases simply emphasize the necessity of redoubled prudence on the part of the physician in authorizing syphilitics to marry, irrespective of treatment and the continued recurrence of papular lesions, and that intelligent discrimination should be exercised in deciding upon the fitness of syphilitic men to marry accordingly as they have or have not complied with these essential conditions.

It is to be observed that the risks of conjugal contamination are not limited to the contagious accidents that the syphilitic may bear upon his person, since the wife may be contaminated by the infant procreated by a syphilitic father. Fournier reports the case of a man who married after seven years of syphilis and procreated a syphilitic infant which communicated the disease to the mother *in utero*. There are other conditions to be considered which may defer the marriage or interdict it altogether.

DURATION OF THE PERIOD OF HEREDITARY TRANSMISSION.

From the viewpoint of dangers to the offspring it is no less important to determine the duration of the period during which syphilis is susceptible of hereditary transmission. Is the duration of the contagious stage of syphilis to be regarded as the exact measure of the period during which a syphilitic man can transmit his disease to his offspring?

Clinical experience shows most conclusively that the period of the paternal influence in the transmission of syphilis may be prolonged after all manifestations of the disease have disappeared. All authorities agree that the influence of maternal syphilis may persist for years after the mother has ceased to be contagious. From this we may conclude that the aptitude of syphilitic parents to procreate syphilitic children may persist after the cessation of syphilitic manifestations, and that the contagious stage of syphilis is therefore not the exact measure of the duration of its hereditary influence.

Unfortunately, our knowledge of the laws of syphilitic heredity do not enable us to say at what precise period in the evolution of the diathesis the syphilitic organism undergoes that change which extinguishes its transmissive power. We know certainly that the element of time exerts a marked attenuating influence on syphilitic heredity. As the interval between the date of the infection and impregnation lengthens, there is a progressive enfeeblement of the transmissive capacity, as shown in a series of successive pregnancies. After a variable period the syphilitic taint ceases to be manifest in the offspring, and subsequent pregnancies result in healthy children exempt from all traces or stigmata of syphilis. It is well established also that the hereditary influence shows a decreasing scale of gravity with the age of the syphilis. The usual course is as follows: the first pregnancies terminate in abortions, which occur at a later and later period; then stillborn children or children viable at birth, but which soon die; then syphilitic children, surviving, but showing evidence of specific taint, and, finally, healthy children free from all signs of the parental disease.

We know, moreover, that the influence of hereditary transmission is in a marked degree corrected by treatment. It frequently happens that when syphilitic progenitors undergo active syphilitic treatment before the time of procreation the child is born healthy, and that when this treatment is suspended the next pregnancy results in a syphilitic child. The treatment seems, then, not to extinguish but rather to hold in abeyance the transmissive capacity. It is rational to conclude that a treatment which exercises such a marked effect upon hereditary influence should be able to finally extinguish the diathesis, if sufficiently prolonged. Indeed, the most signal demonstration of the curative value of specific treatment upon the syphilitic diathesis is furnished by its corrective or repressive influence upon hereditary transmission.

It would appear, then, in order that a child should be born healthy from syphilitic parents it suffices that at the moment of procreation and during pregnancy the parents should be under the influence of mercury.

The following illustrative case is taken from Turchmann: A syphilitic woman began by having seven pregnancies, during which time she was not treated. Seven times she was delivered of syphilitic infants which soon died. Becoming *enceinte* an eighth and a ninth time, she was treated during the course of these two pregnancies, and each time she bore a perfectly healthy child. There followed a tenth pregnancy. This time the woman, considering herself cured, was not treated; she brought forth a syphilitic child which died in six months. Finally, an eleventh pregnancy resulted, during which she received treatment, and she brought forth a healthy child.

Fournier carefully followed up the history of fourteen individuals who had not been treated for syphilis and who became fathers forty-five times. These forty-five pregnancies resulted as follows: infants survived, of whom 6 were affected with syphilis, 8; abortion or birth of stillborn children, 29; infants died a short time after birth, 12; that is, 37 deaths in 45 pregnancies, or 82 per cent.

In another series of cases in which proper and sufficient treatment was given, the mortality was only three in one hundred, a mathematical demonstration, Fournier claims, of the value of specific treatment.

Syphilitic heredity, then, has two powerful correctives, mercury and time. Combining the two we have a reasonable certitude of extinguishing not only the contagion of the malady, but its power of hereditary transmission. We have a legitimate right to permit marriage to those who have been subjected to the double depurative action of these two elements. Both have a precisely similar effect upon the common etiological factor—syphilis.

While there is not an absolute identity, there is a sort of concordance between the period of contagion and that of hereditary transmissibility, so that we may conclude that a period of four years with proper treatment constitutes a sufficient probation to impose upon the syphilitic man as a condition of his becoming the father of a family.

When we come to consult the facts of clinical observation, we find that, exceptionally, the transmissive power may be much more prolonged than would be indicated by this term of probation. Cases are recorded in which the paternal influence was manifest in the procreation of syphilitic children six, eight, or ten years, or even longer, after syphilis.

Hutchinson has recorded a case in which the syphilitic influence was prolonged for more than eleven years, resulting in eleven syphilitic children. Fournier has reported numerous cases of the prolonged duration of hereditary influence.

Precisely as in estimating the duration of the contagious period, in computing the period when it is safe for a syphilitic man to become the father of a family, it is well to base our appreciation upon commonly observed facts, rather than upon exceptions, so that we may lay down as a general rule that the correlation between the contagious risks and hereditary transmissibility is sufficiently close to justify the formulation of the same conditions for the prospective husband and the prospective father.

These conditions are for the average cases. When complied with the physician is morally justified in saying to the patient: "While no one can guarantee absolutely your safety as a husband and father, you have complied with all reasonable conditions which are imposed by science and medical experience. The probabilities are that you will not infect your wife nor beget syphilitic children."

"But," in the language of a distinguished authority, "medical certainty is not mathematical certainty," and the longer the patient puts off the marriage the more he will diminish the chances of his proving an exception to the rule.

CHAPTER XXIII.

PERSONAL RISKS TO THE HUSBAND.

THE dangers of syphilis in relation to marriage have thus far been considered from the standpoint of its contagiousness and transmissibility by inheritance. As soon as the dangers to the wife and offspring are silenced by time and treatment, the syphilitic man is, as a rule, rehabilitated as a member of the social body and his disability as a marriageable man removed. He may forget his syphilis as an unpleasant and shameful episode of the past which has been put behind him; but, so far as his own individual risks from the disease are concerned, the chapter is not necessarily finished. Syphilis is oftentimes a pitiless creditor whose obligations may not mature for years and are not outlawed by the lapse of time. The expiation may be continued during an entire lifetime. The menace of tertiarism may hang over his head, and fall years afterward when the follies of youth have been forgotten and his social environment may exhale an odor of virtue and respectability.

The patient has to fear the results of his own infection not only for himself as an individual, but as a husband and father; unfortunately, the future family becomes associated with him in his personal risks. He is exposed to the consequences of a disease which may ruin his health, impair his usefulness, and incapacitate him for his responsible position

as the head, the material support, and breadwinner of the family.

Now, the syphilitic man contemplating marriage is rarely impressed with this order of dangers. He is, as a rule, ignorant of what the effects of syphilis may be after a long interval, especially when it has been insufficiently treated. It is the province of the physician to enlighten him as to these possible dangers and to dissuade him from marriage when the indications point to a menacing character of the diathesis for the future.

Fournier speaking upon this point says: "Is it admissible, is it right, is it moral that a man should dream of having a wife and children when he offers the possible prospect of widowhood to his wife, of orphanage to his children, of poverty to his family? From the sole point of view of the *personal* dangers of the husband, syphilis is a frequent source of social miseries the most lamentable, of domestic dramas the most heartrending. Among numerous illustrative examples the following may be quoted:

"An artist, formerly well known and quite celebrated on the stage, marries, despite a syphilis, which had never been otherwise treated (the expression is his) than 'by contempt.' He has the good fortune not to infect his wife and to have a healthy child. But some years later he begins to be affected with a tuberculo-ulcerative syphilide, which, still treated with the same stupid indifference, takes on a phagadenic character, ploughs up the whole face, then destroys the nose and the upper lip, penetrates into the nasal fossæ, and devours the whole internal bony structure of this cavity, the bony palate, the soft palate, the pharynx, etc. This unfortunate man thus becomes a hideous and infected monster, an object of

horror and disgust to all who approach him. He drags along thus many years in a condition more and more frightful, before ending in a death that to him came too slowly. What a situation! What a spectacle for a young wife, for a child, for a family, without speaking of moral punishment and pecuniary ruin!

"A young artist, a painter, full of talent and promise, marries, with a syphilis very insufficiently treated. All goes well during several years. The pictures sell, the little household prospers and is enriched with a child. Then the husband has an inflammation of the eyes, the nature of which is at first misapprehended, and which, attacked too tardily by specific medication, terminates in complete blindness. Consequence: family ruined, falling into absolute indigence, and forced to apply at the bureau of charity in order not to perish of hunger.

"A young business man contracts syphilis and is treated quite regularly for several months. Relieved of all apparent manifestations of the disease, he believes himself out of danger, and discontinues all treatment. Three years later, without consulting a physician, he marries. Scarcely married, he communicates syphilis to his wife from relapsing accidents. Then he is attacked with cerebral syphilis, which is subdued at first, but which make a new invasion and rapidly carries off the patient. The young wife becoming *enceinte* at the beginning of her marriage, brings forth a syphilitic infant which an active medication succeeds in saving. Very soon she presents multiple symptoms of malignant syphilis—confluent eruptions, cephalalgia, violent neuralgias, ecthymatous eruptions with phagadenic tendency, reproducing themselves when scarcely cured, and ending in covering the

body with monstrous sores. Under the influence of these symptoms her health is altered; emaciation, decline of strength, loss of appetite, digestive troubles, diarrhœa, finally pulmonary tuberculosis and death from the cachexia; an orphan and without resources, the child has to be relieved by public charity."

Fortunately, cases of this character are comparatively rare. In the large proportion of cases syphilis does not seriously compromise the health or life of the individual. Daily observation shows that syphilitics may live to advanced age without presenting any manifestations imputable to the disease. It is a curable disease in most cases, but there are exceptions.

With the advance of our knowledge of the pathology of syphilis we now recognize that many complications of a grave character, often ending in death, the nature of which was formerly misunderstood and erroneously referred to other causes, are in reality due to syphilis. Many affections of the brain, cord, the liver, or other important central organ have their origin in syphilis. One has only to search through the wards of our general hospitals, lunatic asylums, homes for incurables, in order to appreciate the frequency and gravity of these affections. What adds to the sombreness of the picture is that many of these affections that are indubitably of syphilitic origin do not respond to syphilitic treatment—they are essentially incurable. People die from syphilis to-day as they died in the sixteenth century, if they are not properly treated; but the cause of death is chastely concealed under some uncompromising name in our mortuary statistics.

These grave manifestations are not confined to the class

of patients who enter general hospitals; they are found among the well-to-do private patients, especially among what are termed "the higher classes"—men with an unbalanced or weak nervous organization, who, moreover, are free livers, devoted to the pleasures of the table, and who live under a high tension.

It is significant that the nervous system is most frequently invaded in such cases, and paresis is the most common termination. It may be said that every hemiplegia occurring in a man less than forty years of age not addicted to alcohol or affected with lesions of the circulatory system is eight or, more correctly, nine times out of ten of syphilitic origin. The proportion of ocular paralyses resulting from syphilis is about 75 per cent. on the average. In 47 cases of cerebral syphilis Fournier found 44 originating from a medium or benign syphilis. Less than 60 per cent. of these cases were susceptible of cure. Among 90 cases there were 14 deaths, 33 surviving with grave infirmities and in a deplorable state during the rest of their existence. In later statistics embracing 743 cases of cerebral syphilis, 354 of which were followed up to a known termination, 77 were cured, 68 died, while the remaining 209 survived, but with various infirmities of a grave character, and in every case irremediable. In round numbers, out of 100 cases of cerebral syphilis, 22 will be cured, 19 quickly die, and 59 will survive, but with definite and permanent infirmities.

Althaus, of London, estimates that 90 per cent. of locomotor ataxia is due to syphilis. Vulpian found 15 out of 20 were due to syphilis; Quinquaud, 21 out of 21, or 100 per cent. Erb, who is opposed to the theory of the specific origin of locomotor ataxia, found 53 out of 100. In 117 cases Fournier

found syphilis in 107. Out of 3429 cases of tertiary syphilis Fournier found 1085 accidents of the nervous system; cerebral syphilis, 461; tabes, 40; general paralyses, 32. He concludes that the virus of syphilis is a veritable poison to the nervous system.

The causal relation of syphilis to disease of the nervous system is to-day so clearly established that the prudent physician must always consider this possibility in the syphilitic candidate for marriage, especially in cases not sufficiently treated.

When we come to consider the degree and imminence of risks to the personal health of the husband, it is largely a question of prognosis. Now, the general prognosis of syphilis is laid down by text-book authorities with a sufficiency of detail and exactness. Our knowledge of the disease enables us to say that tertiary accidents are not inevitable. The numerical proportion of syphilitics who suffer from tertiary accidents may be expressed in mathematical terms. When it comes to the prognosis of syphilis in an individual case and we are called upon to determine whether the patient who consults us in regard to marriage is liable to develop tertiary lesions, or whether they will affect this or that system or organ, the decision embraces many complex and important factors. There is nothing more difficult or uncertain than the forecasting of the future of syphilis in a given case. The elements which serve as a basis of prognosis are vague, uncertain, and wrapped up in "the mystery of individuality."

The type or quality of the syphilis is largely the result of peculiarities of the individual constitution. These peculiarities may be quite independent of physical endowments

which have a relation to the general health. While the weak, the cachectic, and the debilitated, as a rule, have a bad type of syphilis, robust persons in vigorous health may suffer severely from the disease. We cannot foretell from the début or the initial characters of syphilis whether the patient will have tertiary accidents, or in what organ they will be localized, or how prolonged their duration.

Clinical experience furnishes many examples of a severe type of syphilis originating in an insignificant initial lesion. We have seen that the gravest tertiary accidents have often for their point of departure a chancre the simplest, the most feebly indurated, the most benign, and the most insignificant. Neither does the benignity of secondary accidents insure against the malignancy of tertiary lesions. A favorable prognosis upon the basis of mild secondary accidents may give a most illusory sense of security. The present of syphilis is never the mirror of the future.

In the absence of precise information furnished by the initial manifestations of syphilis there are certain probabilities to be drawn from a prolonged observation of the course and character of the disease. Certain features relating to the form and process of the early lesions, their tendency to localization in particular organs or tissues, are significant. The precocious development of pustular or ulcerative lesions always portends a bad type of syphilis. These forms are largely the product of bad conditions peculiar to the individual, which are apt to be reflected in the character of the ulterior accidents. It is especially the anomalous or irregular forms of syphilis which carry with them an unfavorable prognosis.

There are cases of syphilis which during their whole

course are grave, which are obstinate and refractory to treatment, and which show a tendency to continually recur. Especially is this true of ulcerative lesions and buccal mucous patches which later assume a leucoplastic type. Then, again, certain cases of syphilis manifest their predilection for special organs in the early stages of the disease, and this preferential infection of these organs is manifest during its entire course. The determination of syphilis toward the nerve centres, the nerves, and the organs of special sense, especially the eyes, has always a grave significance. They often constitute the most precocious as well as the most serious manifestations of the disease, and always carry with them an unfavorable prognosis.

It has been observed that of all the organs of the body the nervous system is the most frequently attacked by tertiary syphilis. Of all the menaces to the health and life of the individual, lesions of the nerve centres are the most to be feared. Any indication that points to the involvement of this organic system has a most unfavorable prognostic significance.

Incidentally it may be said that while syphilis may directly attack the nerve substance, it is not to be forgotten that it is essentially a poison of the blood, and it is chiefly through the intermediary of vascular changes that the nerve lesions are produced. The paralyses and other symptoms of brain syphilis are more likely to be caused by lesions of the encephalic vessels than by direct invasion of the nerve substance.

The localization of specific lesions in the ocular apparatus, especially the development of iritis, has an unfavorable significance as indicating the probability of the nervous

system being involved. Paralysis of the muscles of the eye are also significant, even when they are apparently cured. Another sign insisted upon by Thibierge as of great significance, which does not reveal itself by any subjective symptom, is the sign of Argyll-Robertson, recently attached to syphilis by Robinsky. Other observers state that pupillary immobility is very common in syphilitics. While the localization of the virus in the ocular apparatus cannot always be regarded as the precursory sign of cerebral syphilis nor an absolute obstacle to marriage, Thibierge contends that it ought to influence the judgment of the physician, especially if other unfavorable elements of appreciation are added.

When syphilis manifests a determination to the brain or cord it presages the most serious results both for the present and for the future. While cerebral syphilis may exceptionally be cured, there is always a tendency to recurrences to which the patient finally succumbs. For his own personal safety, no syphilitic man should wish to marry where the character of the diathesis threatens such complications. It is a noteworthy fact that many syphilitics experience an aggravation of their symptoms with a special determination toward the nervous system after marriage. There is not simply an accidental but a causal connection between the two. It is probable that the exhaustion of the nerve centres which results from the sexual excesses not uncommon in early married life robs the organism of its resisting capacity and renders it an easy prey to the encroaching action of the syphilitic virus.

Fournier has made reference to the fact frequently observed by him, that grave nervous complications may supervene within a short period after marriage. Speaking of the various

excesses which play a prominent rôle in the etiology of tertiarism, he says: "No less perilous is the venereal excess which exhausts the brain and depresses the individual.

"Apropos of this a small but curious collection of facts which chance has furnished me is quite significant. Six times have I observed cerebral accidents very rapidly succeed marriage, and always under the same conditions, that is, as the result of excessive indulgence in the course of the honeymoon. The history of these six patients is identically the same. All were old syphilitics, but absolutely well and vigorous at the moment of marriage. They were all men who indemnified themselves for the continence of the *fiancailles* by venereal excess *post nuptias*. They were all attacked at different epochs with cerebral accidents, such as epilepsy, apoplexy, hemiplegia, etc., one in the third month, two others in the second month, and the other three fifteen, thirteen, and ten days after marriage. So that in considering the personal risks of a syphilitic man the physician should not ignore the causes which act as auxiliary provocatives, capable of directing and intensifying the tertiary discharge upon such an organ or system."

The physician should study the conditions peculiar to the patient, since the tendency to tertiary accidents is increased by all influences that tend to diminish the resistance, impoverish the organism, and consequently render it more vulnerable to the syphilitic virus. This morbid aptitude or predisposition to nervous involvement may be increased by all causes that create a morbid stimulation of the nervous system, excesses of all kinds, especially alcoholic excess, violent emotions, mental labor, worry, in fact everything that determines special fatigue of the brain or cord. Men

who indulge in the excesses of fashionable life, who live under a tense nervous pressure and continued excitement, passing their nights in dissipation and excesses of all kinds, are peculiarly prone to tertiarism.

Among the most favorable factors are time and treatment. If the man is past the fourth year, if his syphilis is without any premonitory symptoms indicating a tendency to involvement of the nervous system, and if conjoined with this immunity he has been subjected to a thorough and efficient specific treatment, the probabilities are that he will altogether escape tertiary accidents.

In this connection it is important to note that cerebral syphilis would seem to affect, from preference, persons with specific antecedents of an unusual benignity. A syphilis which was so mild and of such trifling importance that the date of its *début* has been forgotten by the patient furnishes a large contingent of late cerebral syphilis. In all these cases, so far as can be determined, there has been no proper treatment. From this point of view the initial benignity of a syphilis may be a positive misfortune, as the mild character of the early accidents tends to lull the fears of the patient in a false security and leads him to disregard the preventive and saving resources of specific treatment.

No fact is better established than that the dangers of tertiarism decrease with time. While the duration of the tertiary stage may exceptionally be prolonged almost indefinitely to fifty, sixty, sixty-five, or sixty-seven years (Dr. Petit reports a case of an old man who was attacked at the age of eighty-seven years with a tubercular syphilide as a consequence of a syphilis contracted at the age of twenty), yet such cases are altogether exceptional.

As before said, in considering the period during which the syphilitic man is exposed to personal risks by virtue of his disease, we must base our verdict not upon exceptional cases nor upon the extreme limit in which tertiarism may manifest itself. As regards the relative frequency of tertiarism at different stages of the disease, an analysis of Fournier's personal statistics of 4405 cases in which the exact date of the first appearance of tertiary symptoms was determined shows that tertiary lesions most commonly occur in the third, fourth, or fifth year of syphilis, with a marked predominance during the third year. These accidents attain their acme as a rule during the third year. The third year, therefore, constitutes the formidable year of tertiarism. With the fourth year is inaugurated a decline of tertiary accidents.

In Fournier's cases 70 per cent. occurred in the first ten years; 32 per cent. in the second decade; 5 per cent. from the twentieth to the thirtieth year, and 1 per cent. from the thirtieth to the fortieth year. These numerical documents furnish precise data in estimating the general evolution of tertiarism and its relative frequency at different stages.

All these facts lead to the same general conclusion—that the first four years of syphilis are not only the most dangerous to the wife and offspring, but also most dangerous to the individual. There is, however, one important difference, that after the fourth year the danger to the wife and children is practically extinguished, while in the latter the personal dangers are not entirely extinguished, but simply in process of diminution, and that a man who has tertiary symptoms at the fourth year is still under the menace of the diathesis and disqualified for marriage.

CHAPTER XXIV.

SUFFICIENT SPECIFIC TREATMENT. RÉSUMÉ AND CONCLUSIONS.

FROM this study of the duration of the period of the contagious and transmissive power of syphilis it is evident that:

1. *The advanced age of the diathesis, on an average four years.*
2. *The absence of specific manifestations.*
3. *A prolonged period of exemption from all accidents for twelve or eighteen months.*
4. *The non-menacing character of the diathesis, so far as its possible risks to the husband are concerned, are necessary conditions to be complied with in sanctioning the matrimonial venture of the syphilitic. There is another requirement which, from its modifying and corrective influence upon the diathesis, must be regarded as of prime importance—viz., specific treatment.*

SUFFICIENT SPECIFIC TREATMENT.

At the present day scarcely any physician doubts the value of specific treatment in diminishing or averting the dangers of syphilis; three centuries of experience have gradually eliminated all skepticism as to its positive efficacy. There is perhaps no other disease that the physician under-

takes to treat with the same absolute confidence in his ability to accomplish certain definite results as syphilis. This confidence is amply justified by clinical experience, which has demonstrated in the most positive manner the undoubted efficacy of mercury and iodide of potassium in modifying the manifestations of syphilis and hastening their cure. These two drugs, which form the basis of all special therapeutic treatment at the present day, are by common consent ranked as "specifics," since when introduced into the organism they seem to directly attack the virulent germs; certainly they cause the organic lesions as well as the functional disorders created by the syphilitic virus to disappear.

The treatment of syphilis, then, rests upon the solid basis of the demonstrated specificity of these two drugs. While it may be admitted that there is a difference in the susceptibility to the action of these drugs in different individuals, and that in exceptional cases the syphilitic organism seems to remain refractory and insensible to their preventive action, yet in the large proportion of cases the syphilitic manifestations respond with surprising promptitude to their curative action, oftentimes vanishing with marvellous rapidity. The only basis of skepticism is that while their curative action in causing syphilitic manifestations to disappear is established beyond all possibility of doubt, their preventive action is not so absolute. We cannot guarantee a syphilitic patient who has been subjected to specific treatment an absolute exemption from all manifestations of the disease in the future; it is hardly conceivable, however, that a treatment which exhibits such incontestable effects in curing the accidents of syphilis should not be capable of finally dominating and destroying the diathesis.

The clinical evidence may be briefly summarized as follows:

1. The facts of common observation show that if mercury is given early it often entirely suppresses the secondary manifestations of the disease, or at least delays or deranges the order of their appearance. This demonstrated action of mercury upon the diathesis is so generally recognized that delay in its early administration is generally counselled, since the first visible manifestations of the disease upon the surface are looked upon as constituting the necessary confirmation of the diagnosis, and the precocious administration of mercury, by preventing or delaying their appearance, introduces an element of confusion into the diagnosis. That mercury causes the secondary manifestations to rapidly disappear is attested by the experience of all physicians. The proof is no less positive that it attenuates or mitigates the character and severity of secondary syphilis. Under the influence of treatment there is a marked diminution of the successive crops, in their number, intensity, and duration. The entire manifestations of the secondary stage may be reduced to a small number of accidents of the most mild and superficial character when the patient is kept under the active influence of mercury.

2. This clinical proof is no less manifest in the preventive action exercised by mercury upon the development of tertiary manifestations. Patients sufficiently treated are not nearly so apt to pass into the tertiary stage. Fournier's statistics show that among 100 cases of cerebral syphilis whose therapeutic antecedents were well known, only 5 had been submitted to a serious and prolonged treatment; 6 had an average treatment; 70 had treatment varying from one to six months;

the others had no treatment whatever. In round figures, only 5 patients out of 100 had had sufficient treatment against 95 who had undergone a treatment insufficient, either too short or none at all. In other words, cerebral syphilis is nineteen times more rare as a result of a serious treatment than in subjects insufficiently treated or not at all treated. Other testimony might be quoted as to the prophylactic effect of treatment against tertiary accidents.

3. Reference has already been made to the remarkable effect of specific treatment in correcting or holding in abeyance the influence of hereditary transmissibility. Specific treatment seems to neutralize the hereditary influence of syphilis. Reference has also been made to the frequency with which the grave tertiary manifestations of syphilis follow a syphilis of initial benignity. This frequently observed relation can only be explained by the fact that these patients, on account of the mildness of the disease, received no proper treatment. In this connection it may be said that the term benign syphilis should not be used except by way of comparison. Syphilis is never benign, even in its forms the most innocent in appearance, as it is liable to attack later on organs essential to life.

RÉSUMÉ AND CONCLUSIONS.

From this study of prematrimonial syphilis the following conclusions may be formulated:

1. The two qualities of syphilis which emphasize its important relations with marriage are its contagiousness and susceptibility of hereditary transmission.
2. These qualities are not impressed upon the syphilitic

organism indefinitely; as syphilis advances in its evolution the virulent principle gradually becomes extinguished.

3. Specific treatment also exerts a marked attenuating and corrective influence upon the diathesis.

4. Syphilis does not therefore constitute an absolute permanent obstacle to marriage; it is only a temporary bar which may be removed by time and treatment.

5. The decision of the question of the admissibility to marriage of a man with syphilis or with syphilitic antecedents imposes a grave responsibility upon the physician.

6. The physician should consider the proposed marriage solely as a sanitary problem, the only correct solution of which is that the man should not marry so long as he is capable of infecting his wife or of transmitting his disease to his children.

7. The elements which serve for the determination of this question are based partly upon our knowledge of the pathological laws of the disease and largely upon the results of clinical experience.

8. The division of syphilis into secondary and tertiary periods, or that based upon anatomical forms and processes, does not furnish a safe criterion for determining the contagious or non-contagious character of the lesions.

9. The chronological completion of the secondary stage does not always mark the definite disappearance of the virulent principle; clinical experience shows that late lesion may be exceptionally, but none the less certainly, the source of contagion.

10. The precise date in the evolution of the diathesis when the syphilitic organism undergoes that radical transformation which marks the limit of its contagious or trans-

missive power does not admit of mathematical expression.

11. It is probable that this limit varies in different cases and that many circumstances contribute to advance or defer it.

12. The type of the disease, the constitutional peculiarities of the patient, the presence or absence of certain conditions which are recognized as factors of gravity in syphilis, the treatment employed, all exert a modifying influence.

13. All these elements should be taken into consideration in deciding upon the admissibility of a syphilitic man to marriage; each case should be studied upon its individual merits.

14. The advanced age of the diathesis, a prolonged immunity from specific accidents and sufficient specific treatment are the surest guarantees of safety.

15. The arbitrary designation of a period of three or even four years as perfectly safe for a syphilitic man to marry, with or without treatment, and irrespective of the character of the diathesis is unwarranted by science or the teachings of experience.

16. While in the immense majority of cases the contagious activity of syphilis and its hereditary transmissibility cease after the third or fourth year, yet well-authenticated observations prove in the most positive manner that these qualities sometimes continue much longer, and may be manifest in the fifth or sixth year of the disease, and even later.

17. The aptitude of syphilitic parents to procreate diseased children may persist after the cessation of all specific manifestations; the contagious stage of syphilis is not,

therefore, the exact measure of the duration of hereditary influence; this is especially true of maternal heredity.

18. The curative influence of specific treatment in causing to disappear the organic lesions as well as the functional disorders created by the syphilitic virus is well established.

19. While the preventive action of specific treatment is less pronounced than its curative action, it is hardly conceivable that a treatment which exhibits such incontestable virtue in causing the accidents of syphilis to disappear should not be capable of dominating and destroying the diathesis, if sufficiently prolonged.

20. The value of specific treatment in suppressing, holding in abeyance, and finally correcting the hereditary influence of syphilis may be accepted as well established by clinical experience.

21. Clinical observation shows that when there is a cessation of all specific manifestations after the completion of the secondary stage, and this exemption is prolonged during a period of twelve or eighteen months, they are not liable to recur.

22. When the syphilitic diathesis has been subjected to the double depurative action of time and treatment during a period of four years, in the vast majority of cases it is scientifically safe for the syphilitic to marry.

23. This rule is based upon a calculation of probabilities. Medical certainty is not mathematical certainty, and a longer period of delay would afford additional guarantees of safety to the wife and prospective children.

24. In deciding upon the fitness of a syphilitic man for marriage the risks to the personal health of the prospective husband from his disease should always be considered.

25. A menacing character of the diathesis, and especially the existence or history of certain symptoms which point to the implication of the brain, nervous system, or other important organs constitute an express, permanent contra-indication to marriage.

CHAPTER XXV.

SYPHILIS.

AFTER MARRIAGE.

THE relations of syphilis with marriage assume a new and altogether more grave significance after the disease has been introduced into the household. Before marriage the dangers of syphilis are limited to the individual, who has no right to complain; so far as the future family is concerned, they are merely presumptive and contingent upon a step which can always be avoided. After marriage they are not only immediate and real, but almost inevitable. What can the physician do to avert or circumvent these dangers?

In dealing with prematrimonial syphilis the physician's rôle is that of a sanitary officer whose object is to prevent the introduction of disease into the family. His line of conduct is clear and easily traced. It is to instruct the patient as to the dangers of the proposed marriage to his prospective wife and children and to urge its postponement until he shall have secured the most efficient prophylaxis possible which may be afforded by time and treatment.

In dealing with marital syphilis the preservation of others from infection is the chief object of the physician's efforts, and this task will be found extremely arduous and difficult. A variety of situations may present themselves

which are exceedingly complex, delicate, and difficult, and which, for their intelligent management, demand on the part of the physician not only medical knowledge, but the exercise of tact, diplomacy, and skill.

1. The syphilis of the husband may be a continuation of the disease contracted at a more or less remote period before marriage

2. He may have contracted syphilis just before marriage, the consequences of which may not appear until after the marriage is consummated.

3. He may have contracted syphilis from an extraconjugal exposure *post nuptias*.

In the first category of cases it is important to determine the age of the diathesis and the significance of the existing manifestations. If a certain period has elapsed since the *début* of the infection, and the symptoms are of the tertiary order, evidently they carry with them no risk to the wife or offspring. Their chief and only significance is the personal risk to the husband's health.

In these cases the physician's line of duty is simple; it is to treat the husband with the precaution that it is well for him to so guard his prescriptions as not to provoke attention or suspicion from those around him. Mercury and iodide of potassium are so closely associated with the treatment of syphilis in popular estimation that the employment of the former is usually accepted as the evidence of the existence of the latter.

The syphilis, on the contrary, may be in an active, contagious stage. The man may have been acquainted with the nature of his disease and fully apprised of the dangers to his family, but, disregarding the physician's advice, and

despite his remonstrances, he has for various unworthy motives taken the chances.

He may have been treated a few weeks or months for syphilis and, seeing no further manifestations of the disease, he has married without consulting the physician as to the propriety or safety of such a step, and after marriage experiences a new outbreak. Such cases are especially common among the poor and ignorant class of patients seen in dispensary and hospital practice. The opinion is generally prevalent among them that the chancre or lesions of the genitals are the only sources of contagion, and that after these manifestations have disappeared marriage can be entered into with safety.

He may have married in absolute ignorance of the fact that he had syphilis and, it may be, with the sanction of his physician, who, from a careless or superficial examination, has overlooked or misinterpreted the nature of the symptoms.

The following illustrative case may be cited: A young man consulted me about two years ago for a generalized syphilide which appeared two weeks after marriage. He was entirely ignorant of the existence of any constitutional trouble, and declared that he had never had a chancre or any sore upon any part of his body. The nature of the eruption was, however, unmistakable, and a careful examination revealed traces of a circumscribed hard infiltration in the anterior portion of the urethral canal. A series of inquiries elicited the following history: Six months previous to his marriage he had been treated for gonorrhœa by his physician, who, after three months' treatment, pronounced him cured. He was engaged to be married, but had not yet

fixed the date. At the suggestion of his physician, as he declares, he tried sexual intercourse to see if there was any return of the gleet. Nothing appeared, and after waiting a week he fixed the date of his marriage two and a half months later. In about four weeks he observed a slight discharge from the meatus. This his physician declared to be a "slight return of the old gleet," for which he prescribed injections. A more careful examination would have disclosed the existence of a concealed chancre, the slight secretion of which had been mistaken for a gleet. The discharge gradually decreased and finally stopped, and he was married. Almost immediately after marriage he had a sore throat and the eruption for which he consulted me. I explained to him the dangers to which his wife was exposed, and interdicted sexual intercourse. The advice was too late, as he brought his wife to me a month later with an initial lesion upon the labia, which was followed in due time by a severe constitutional outbreak for which she is still under treatment.

Cases of the second category are comparatively rare and are almost invariably due to the traditional ceremony of *l'enterrement de la vie de garçon*. The prospective bridegroom may include in his adieux to bachelor life a farewell visit to a former mistress and receives an infection of which there is no visible manifestation until after the classical period of incubation, which brings it after marriage.

Cases of the third category, in which syphilis is contracted after marriage, are unfortunately very common. Many men are entirely ignorant of the period of incubation of primary syphilis, and infection of the wife occurs from an insignificant

lesion which the husband does not connect with an exposure of several weeks before.

A patient from the West came to me with the following history: He had visited New York a few months previously and had been entertained by some business friends at a champagne dinner. He was unaccustomed to wine, and under its demoralizing influence was persuaded to join the party in "seeing the town," with the not unusual result of carrying away with him a hidden souvenir of one of its painted denizens. He carefully examined himself for several days, and as he saw no sign of anything wrong, congratulated himself on his good fortune in escaping. He returned home and resumed his marital relations. Some four weeks later, when he had forgotten all about his extraconjugal escapade, he observed a small pimple which, in his ignorance of syphilitic incubation, he never dreamed of connecting with his adventure. A few weeks later he had an eruption which the physician whom he consulted told him was syphilis. His wife a month later showed signs of infection, and, as he did not wish to consult her family physician, they both came to me for treatment.

A quite similar history we have had in a number of other cases. The men most intelligent upon ordinary matters are often ignorant of the nature of syphilis and especially of the laws of its evolution. It often happens that the men who have been the most moral and upright in their early life are the most densely ignorant; they are not even possessed of the modicum of knowledge of venereal diseases which is learned in the school of early dissipation. The patient above referred to assured me that he had married in his twentieth year and that during the twenty-eight years

of his wedlock this had been his first unfaithful act. He was a man of superior intelligence upon general matters, but with an absolute ignorance of everything relating to venereal diseases.

When a married man who has syphilis comes to consult you it is important first of all to know the situation as far as his wife is concerned: (1) she may be uncontaminated; (2) she may be apparently healthy and pregnant; (3) she may have been already contaminated; (4) she may have been contaminated and is pregnant.

CHAPTER XXVI.

HUSBAND SYPHILITIC, WIFE NOT CONTAMINATED.

WHEN the husband is syphilitic and the wife not yet infected the indications are to treat the husband and, if possible, limit the spread of the infection. Fortunately, the treatment of the husband and the prevention of the extension of the disease go hand in hand.

First of all it is necessary to enlighten the patient fully as to the sources and modes of infection and means of prevention. This instruction should be given carefully and thoroughly as to details. The object to be attained is well worth the trouble. The chancre is rarely the source of contagion in married life, except in those cases in which the nature of the lesion has been unrecognized. Few men are so reckless or indifferent as to expose their wives to what they recognize as an almost certain infection. You do not, as a rule, have to impress upon your patient the necessity of abstention from all sexual intercourse as long as the chancre exists.

The vast majority of contagions in married life, probably nine out of ten, occur from the accidents which succeed the chancre, and they occur most frequently because the husband is ignorant of the contagious character of these multiple lesions and of the manifold modes by which the contagion may be conveyed. Your duty, then, is to instruct

the patient as to the insidious nature of the infection, the habitual localization of these secondary accidents, and the characters by which they may be recognized. While every man knows that the chancre is dangerous, he is frequently ignorant not only of the danger but even of the existence of the mucous patches in his mouth.

The propagation of syphilis is largely favored by the insignificance, painlessness, and apparent benignity of these sources of infection. The lesions the most dangerous are often the most insignificant in appearance. The patient should be informed that these sources of contagion are most apt to be localized in the genital region and in the mouth. After the chancre has disappeared there may continue to develop in the cicatrix or in its vicinity little spots of redness, liable to become eroded, which are especially dangerous because of the possibility of their being overlooked. The mucous patches which develop about the scrotum and perigenital region are ultra-contagious. He should be taught where to look for mucous patches in the mouth—at the angles of the mouth, the sides and frænum of the tongue, upon the tonsils, palate, gums, and posterior pharynx. He should be instructed that these patches are not only dangerous from direct contact, but from the admixture of their secretion with the saliva, which serves as a vehicle of contagion. He should thoroughly understand that the slightest erosion, the most minute sore upon any part of the body, may contain the germs of the contagion and give exit to a secretion which is susceptible of inoculation.

This lesson in preventive medicine should be given with the most careful attention to details and in a manner so plain that the patient may fully comprehend.

As before remarked, the slightest accidents of the secondary period are the most dangerous as regards contagion, as the danger is masked by their innocent appearance. Patients as attentive as possible to the state of their health, the most careful and conscientious observers of themselves, suffer contagion of this kind to happen. Physicians even, thoroughly competent observers, have not escaped this danger in their families.

Fournier reports the following case as an example: "A most distinguished physician, one of those men who do honor to our profession as much by their person as by their talent, contracted syphilis in the exercise of his profession. Being married, he immediately forewarned his wife and watched himself with the most scrupulous care. Each day, night and morning, he examined himself with the greatest attention, and nevertheless, in spite of his vigilance, he finally infected his wife. He recounts his misfortune in a letter to me as follows:

" 'One morning, last year, upon awakening, I was astounded to observe in the furrow of the glans a small spot, scarcely apparent, of the size of a lentil, dry in almost its whole extent, the centre slightly excoriated in a point of surface comparable to the point of a pin. I was astounded, for the night immediately preceding this discovery I had had connection with my wife and I had examined myself, as was my custom, the evening before. Now, it was doubtless this miserable pimple, this insignificant lesion which infected my poor wife, for after the classical delay, that is to say, three weeks, she commenced to feel a hardness on the vulva which soon developed into a chancre.'

" Here was a case in which contagion was effected by a

lesion the most slight, the most inoffensive; so inoffensive, so slight as to escape the suspicious eye of an honest husband and watchful and attentive physician."

These precautionary measures relate to the preservation of the wife from infection through contagious accidents the husband may have upon his body; but there is another aspect of the situation to be taken into consideration. A man may be absolutely free from any external sign of syphilis; the most careful and minute examination from the crown of his head to the soles of his feet may fail to discover the slightest manifestation. This absolute exemption from surface accidents may have continued for some weeks and even months, and yet his wife may become infected. She receives syphilis by conception through the intermediary of the child, which has been contaminated by the infected sperm, and in turn transmits the infection to its mother. To arrest this double disaster to both mother and child it is necessary to interdict pregnancy; while, as previously set forth, the transmission of the parental influence of the disease is by no means inevitable, since there is nothing constant in heredity, yet it occurs with sufficient frequency to constitute a real danger to both mother and child.

Your instructions to the husband upon this important point—the necessity of the interdiction of pregnancy—should be so clear as to admit of no misconstruction and sufficiently emphatic to compel compliance.

The next thing is to consider the treatment most suitable for the patient. Fortunately, specific treatment has the dual advantage of curing the disease and constituting at the same time the most valuable prophylactic against the infection

of others. If a patient comes to you with a chancre he will probably demand and expect a speedy cure. He looks upon the sore as the source or rather the precursor of a future syphilis, and not as the evidence of an already accomplished infection. It is best to disillusionize the patient at once of this error.

We do not know definitely when the absorption of the virus through the lymphatic or vascular channels begins to take place. We can assume, however, from analogy with the action of the virus of other infectious diseases, the vaccine virus, and animal poisons, that the process of absorption begins promptly after inoculation. Leaving theoretical considerations aside, the possibility of aborting syphilis by excision or destructive cauterization of the chancre has been settled by the test of clinical experience. It fails to prevent constitutional infection, and it does not materially modify the character of the resulting syphilis. While, as a method of general treatment, excision of the chancre is not to be recommended, still in the case under consideration, where conjugal relations demand the speediest possible suppression of a source of contagion, it may be indicated as a prophylactic measure. The operation is simple, easily performed, and where the chancre is favorably situated leaves scarcely a trace.

In the ordinary treatment of syphilis most authorities counsel delay in beginning the administration of mercury until the appearance of secondary manifestations, on the ground that they furnish the necessary confirmation of the diagnosis. In the case of conjugal syphilis, where the diagnosis of chancre is established beyond question, a departure from this rule is advisable. Treatment should

be begun as soon as the nature of the lesion is reasonably certain. While the early use of mercury does not absolutely prevent the development of secondary manifestations, it attenuates their severity and causes their more prompt disappearance. The treatment of conjugal syphilis should be energetic. While the effect of the drug upon the eruption and the toleration of the patient's system should be carefully watched, it should be pushed to the production of its full therapeutic effects. The object in view is to suppress as rapidly as possible and render inoffensive sources of contagion.

Local treatment directed against mucous patches which are the common habitual sources of contamination in married life is scarcely subordinate in importance to internal treatment. Local treatment is all-powerful against this class of accidents. Mucous patches in the mouth should not be simply touched with nitrate of silver in solution or solid, but should be destroyed *in toto* with a powerful caustic, such as the acid nitrate of mercury; the object is to annihilate the contagious elements. In the case of mucous patches of the genitals, especially of the scrotum, the lesions should be denuded of the slight crusts which cover them, and treated with the ammoniated mercurial ointment. If this should prove to be too irritating, the use of the "black wash" or powdered calomel should be substituted.

Among the prophylactic measures to be recommended nothing is more important as regards the hygiene of the mouth than abstinence from tobacco. The use of tobacco undoubtedly tends to favor the development of mucous patches, and in many cases their observed tendency to constant recurrence can only be corrected by its disuse.

It is to be explained to the syphilitic husband who has mucous patches upon his lips or in any part of the buccal cavity that he should not kiss his wife upon the lips, but only upon the cheek or brow, as the virus is more apt to find entrance through the delicate epithelium of the lips than through the denser cutaneous envelope. The use in common of eating and drinking utensils, or of any object upon which the syphilitic virus may be accidentally deposited, may be the origin of infection.

To these two indications which have been considered, that the syphilitic husband should act in such a way (1) as not to infect his wife, and (2) not to infect his children, there is usually added by most writers a third, which is that he should act in such a way that his wife should never suspect his disease. Diday formulates this not only as a counsel, but as a precept, and that the most imperative. He thinks that the physician will thus fulfil a duty and at the same time render to his client the most signal service by indicating to him the means of dissimulating his disease, the changes of habit which his disease entails and the remedies which it necessitates. Reference has been made to this aspect of medical deontology (page 69), and the advice given that it was better for the husband to avow his fault. This not only simplifies the situation so far as the treatment of the husband is concerned, but it permits of the intelligent co-operation on the part of the wife in preventing contagion of herself and the prevention of pregnancy.

CHAPTER XXVII.

HUSBAND SYPHILITIC, WIFE HEALTHY BUT PREGNANT.

THE intervention of pregnancy introduces a new element of a complicating character into the situation. So far as the husband is concerned the situation is unchanged. The same indications given in the preceding chapter apply to him. He should be treated vigorously and energetically, and there should be no relaxation of the precautionary measures taken to prevent infection of the wife from any lesion occurring upon his body. The principal question is what can the physician do in the matter of safeguarding the mother and child?

There are two alternative situations:

1. The child may have received syphilis through the infected sperm, and the mother may be contaminated by the child. In this case the child will probably die *in utero* or come into the world with syphilis, and the mother sooner or later will begin to show manifestations of constitutional disease.

2. Both mother and child may have escaped infection, and the pregnancy may be uninterrupted and result in a living child at full term.

In view of the first alternative, it may be asked, Is it possible by subjecting the mother to an active specific treatment

to avert or diminish the dangers to which both she and her child are exposed? We have no satisfactory clinical data to serve as a basis for the determination of this point. Clinical experience shows most conclusively that specific treatment administered anterior to the date of procreation exercises a repressive action upon the influence of hereditary transmission; but the effect of treatment of the mother subsequent to pregnancy, when the child may already be infected, is not so easily demonstrated, since if the mother is treated and the child is born healthy, it might be justly claimed that precisely the same result is observed in some cases in the absence of treatment. We cannot differentiate between the effects of treatment and missed heredity. If the influence of paternal heredity were constant and invariable, if it were exercised in every case unless inhibited by the corrective influence of specific treatment, it would be easy to determine this point. The general consensus of opinion is that in view of the doubtful efficacy of specific treatment under such conditions, especially when coupled with the fact that the parental influence is comparatively restricted, and may not have operated in this particular case, expectancy is the wisest policy.

Ricord, speaking upon this point, says: "It would be repugnant to me to condemn to a mercurial treatment a young wife who has nothing syphilitic present, who may, herself and her infant, have escaped infection, and besides the treatment may not save her from syphilis if she has received it. My preferences are for the expectant doctrine, and should a case of this kind present itself to me I would remain inactive rather than act at random."

There are no statistics of cases of this character which

serve to show conclusively the results of therapeutic intervention as compared with expectation. Fournier, while holding to the expectant doctrine as a general rule of practice, makes exception in the case of a woman who has had several miscarriages in succession without cause, and for which there is no more plausible explanation than syphilis of the husband. "This woman again becomes *enceinte*; you are consulted as to what is best to be done. In this circumstance, shall you remain inactive? Certainly not. You know from the experience of the past how expectancy will again result, at least according to every probability, and, on the other hand, you have at your disposition a treatment which, directed against the probable cause of the successive miscarriages, may weaken and correct this cause. Why not make use of it and correct the cause? Under such conditions I do not hesitate to prescribe specific medication as the sole means capable of parrying the danger which threatens the child and of conducting the pregnancy to term. I believe I can claim that this practice has often furnished me with real, incontestable success."

CHAPTER XXVIII.

HUSBAND SYPHILITIC, WIFE RECENTLY CONTAMINATED.

THE contamination of the wife by the syphilitic husband introduces a still farther complicating element into the situation, both as regards the dangers to the family and the difficulties of the physician's task.

At first sight it might appear that the situation was simplified, as the necessity of taking precautionary measures against contamination of the wife by the contagious accidents which the husband bears upon his person no longer exists; but with the infection of the wife there is, in addition to the increment of danger to the offspring which comes from the maternal hereditary influence, the necessity of treating the wife to save her from the personal risks of the disease.

It is of the first importance that she should be treated, not only in the interests of her health, but in the interests of the future children she may bear. Now this treatment, under the peculiar conditions that are ordinarily encountered in practice, will be found to be beset with difficulties. These difficulties would largely disappear if the advice given (page 69) which contemplates avowal on the part of the husband could be secured. But this advice will be to the majority of husbands exceedingly unpalatable, and cannot be enforced. In such a case the physician cannot assume the attitude,

Sic volo, sic jubeo. The husband is master of his own secret and the arbiter of his conduct. He will say: "Doctor, anything rather than my wife should know the nature of her trouble. If she knew this I should be ruined. I should lose her love and esteem. The peace and happiness of our household would be destroyed. At any cost keep her in ignorance of the nature of her disease."

The first difficulty to be encountered, strange as it may appear, may come from the unwillingness of the husband to have the wife treated, from a fear that in this way she would learn the nature of her trouble. Attention has already been called to this fact, verified in the experience of every physician who has much to do with this class of patients.

Now, it is by no means to be assumed that all husbands are of this class. Many of them are overwhelmed with regret and remorse for the misfortune of their wives, for which they are responsible, and will not only sanction but urge that the wife receive the most thorough treatment possible.

There is another class, however, whose indifference and selfishness are almost incredible. They seem to have but one desire—to cover up and conceal their wrongdoing. Every consideration of recompense and reparation for the wrong done seems to be swallowed up in the miserable fear of being "found out"; to "save appearances," to keep the wife ignorant of the guilty secret, becomes the mastering, dominant idea. The husband does not seem to realize that to the sin of infidelity and the moral crime of poisoning his wife with a loathsome disease, which compromises her health and the future of her children, he is adding the

incomparable baseness of denying her the only antidote that science has discovered against its baneful effects. Insistence upon the wife being treated may lead to the employment of another physician who is more complaisant to the husband's wishes. The physician should rather dismiss himself and retire from all professional relations with this type of selfishness.

The next difficulty will come from the wife, and this chiefly through her ignorance of the nature of her disease. She is willing enough to take mercury so long as she has a disfiguring eruption, or iodide of potassium when she has pain in the bones, cephalalgia, or any of the numerous algias which originate from syphilis. But when the eruption disappears and these cyclical disturbances clear up, she naturally rebels against continuing a treatment for which she sees no apparent necessity. When she "sees nothing," "feels nothing," it is difficult to persuade her that she has a serious diathetic trouble which demands a prolonged and continued treatment.

This difficulty is enhanced in cases where the syphilis is of a mild type. It is the mild syphilis which is not infrequently the most prolific in tertiary accidents, and it is this class of cases which demand a sufficiently prolonged treatment as the most efficient guarantee of protection for the future. This fact the physician cannot explain to the woman. It requires not only considerable tact but a certain weight of authority to overcome her repugnance to this prolonged treatment, the object of which she does not comprehend and the utility of which she does not realize. The consequence is that it is exceptional for a married woman with syphilis to be properly and sufficiently treated.

In the immense majority of cases they receive an inadequate treatment, hence their excessive liability to the occurrence of serious accidents of the tertiary order years after the infection.

The physician should have a clear comprehension of the task before him in undertaking to treat a woman for three or four years and to treat her with the obligation to conceal from her what she is being treated for. He is required to dissimulate not only the name and nature of her disease, but the character of the remedies employed. He must invent convenient and uncompromising pseudonyms which shall cover the protean and ever-changing character of the symptoms of the disease. This treatment must be employed not only during the periods of the activity of the diathesis, but also during its periods of repose, when she may feel perfectly well and cannot appreciate its necessity. He must allay her suspicions, which are apt to be continually aroused, and be prepared to answer the many direct and often confusing questions she is constantly asking, especially the disconcerting one as to "why she should have the same symptoms as her husband." Such questions must be expected, for no intelligent woman will take medicines for a trouble which she is assured can only be cured by a long and persistent treatment without demanding to know what that trouble is.

In undertaking this task the physician must become an accomplice of the husband. They conspire together to keep the wife deluded. In this plan of duplicity and deception there must be collusion between the two, so that their statements shall agree in all substantial particulars and not be inconsistent.

The physician's rôle is both difficult and delicate. It requires not only tact and diplomacy, but unfortunately the employment of certain artifices and expedients which are a shade less reputable, which may be repugnant to him and lower him in his own self-respect. The exigencies of the situation may demand not only evasion of questions and subterfuges when giving medicines, but downright lying. Whether the latter is morally more culpable than mere prevarication is not to be considered here. The tenets of polite society require that a gentleman should lie to save the reputation of a lady; the precepts of medical ethics require that a doctor should lie to save the reputation of his patient. Such a course is not considered incompatible with professional dignity, because the motive is not so much to protect the guilty husband as it is to save the peace of mind of the innocent wife and the domestic misery which would inevitably follow the disclosure of the nature of the disease.

If this campaign of duplicity and deception could always or even generally be conducted to a successful issue, the end would perhaps justify the means; but syphilis in the household, like murder, "will out," and too often the superstructure of falsehood so laboriously erected collapses, usually through some fatal weakness or blunder on the part of the accomplice, the husband.

The husband is often anything but an intelligent and helpful ally. He is liable to betray himself in a thousand ways. He must conceal from his wife that he is similarly affected and is taking the same medicines. In a moment of expansiveness or in a mood of overstrained affection, or when driven into a corner by confusing questions, he

makes a clean breast of it, as he should have done in the first place.

The physician's prescriptions given inconsiderately or not carefully guarded are often the means of revelation. An obliging apothecary or a medical dictionary may give a clew which followed up leads to full exposure.

Fournier, who has had large practical experience in this class of cases, says: "The women that we pretend to impose upon in this way are very far from being always the dupes of the strategy. In reality we deceive them much less often and less completely than we think, and especially than their husbands think. Many times I have perceived that certain of my patients whom I thought I had misled as to the nature of their disease knew perfectly well what was the matter with them. Only before myself, as before their husbands, they accept, because they choose to accept, the rôle of deluded wives. Some of them, after a certain time, place the physician at ease by making him aware that they understand the situation. 'Now, my dear doctor, do not give yourself so much trouble,' said one of my patients one day, 'to persuade me that I have a disease other than that for which you are treating me. I have for a long time understood the nature and the wherefore of my disease; only *so far as my husband is concerned I shall always remain ignorant, for my dignity obliges me to ignore that which I could not pardon.*'

"Another, a woman of intelligence, seemed absolutely confident in my imaginative diagnostics until one day she disabused my mind by the following little speech: 'I am very much obliged to you, doctor, for all the trouble which you have for so long a time taken to dissemble the disease

with which I am affected; and you might have succeeded perhaps had it not been for my husband and M. Littre. But my husband guarded too preciously your prescriptions not to inspire me with a desire to read them, and I have read them, as you may readily believe; and you had forgotten to make a recommendation to M. Littre not to indicate in his dictionary the synonym of your fallacious word, *hydrargyrum*."

Similar cases have occurred in the author's experience. Some time ago a patient who came for treatment for syphilis stated that he had had the misfortune to infect his wife and would like to place her under my care. "For God's sake, doctor, do not let my wife know what is the matter with her! She is as innocent of any knowledge of these things as the babe unborn; besides she is as proud as Lucifer. If she suspected what was the matter with her she would leave me instantly." Soon after the wife came for treatment, and after what was considered a happy explanation of the nature of her symptoms had been hit upon, she said: "Now doctor, I know perfectly well what is the matter with me. When this eruption came out I showed it to my mother, and she took me to a doctor without my husband's knowledge, who told her what it was, and she told me. I would not for the world have my husband know that I know it; if he knew that I knew it, my pride and self-respect would compel me to separate from him."

If the woman knows the nature of her disease, that it is a chronic constitutional malady requiring a chronic treatment, there would be afforded by this means the best guarantee that she would receive sufficient treatment.

Another point should not be lost sight of. In view of

the occurrence of late tertiary accidents involving the nervous system or other internal organs essential to health or life, and to which the patient who has not received sufficient treatment during the secondary period is especially liable, it may be of vital importance to the future of this patient that she should not be kept in ignorance of the nature of her disease. When such accidents are encountered, the nature of which may be indeterminate, without a knowledge of the syphilitic antecedents, a specific history furnished to the physician would be of inestimable value in enabling him to prescribe the proper treatment, as upon this may depend the cure or even the life of the patient.

Observation shows that women are especially liable to late tertiary accidents, the true nature of which is often not recognized or rendered improbable by her social position and surroundings. A confrère recently consulted the author in regard to a hemiplegia of undoubted specific origin in a married woman whose social position would negative the suspicion that she might have specific antecedents. Numerous cases of this kind have come under my personal observation. Among others a palmar psoriasis in a society woman who had been subjected to a long and futile treatment on the supposition that it was eczema. Three cases of late syphilis of the nose and face, one of which had been diagnosticated as cancer, two as lupus; all of them had been subjected to various severe treatments—curettage, galvanocautery, etc., without results, but each promptly yielded to specific treatment. The patients were all married women, some of them with healthy grown-up children, to whom the announcement of the diagnosis of syphilis would not only have been a surprise,

but would have been considered an insult to their personal respectability. Discreet questioning showed their absolute ignorance of any specific antecedents.

The author has at present under observation a highly respectable elderly lady, with a family of grown-up sons and daughters, who suffered for years with a most atrocious cephalalgia, for which she received a great variety of treatments without avail. Finally, there was an exfoliation of bone through a sinus connecting with the frontal bone. This process of breaking down of the bone and exfoliation continued during a prolonged period under the observation of various physicians who were consulted, without a suspicion of its specific nature. During a period of eighteen months she was under the constant care of a "bone specialist," who carefully chiselled out the entire external table of the frontal bones. At present there is an enormous open surface, partly cicatrized, covering the entire breadth of the forehead and extending from the margin of the hairy scalp to the superciliary ridge below.

The ubiquity of syphilis is not only manifest by the fact that it may involve every organ or system of the body, but that it may be found in every rank of society and at every period of life. These late tertiary manifestations have as a rule nothing distinctive in their form or process, nothing specific in their appearance which would enable one to differentiate them from affections of an entirely different nature. We are not surprised to find them among men whose eminently respectable surroundings would not suggest syphilis, because most men have exposed themselves in their younger days; but when we encounter this class of accidents in a married woman of mature age, surrounded by healthy

children, and whose appearance and surroundings bear the stamp of virtue and respectability, one is not apt to suspect their specific nature. What Fournier terms the "moral fascination" blinds the physician's perceptions and often leads him to commit a diagnostic error. In almost all of these cases the patient has syphilis without knowing it; nine times out of ten she has received it from her husband, and silence has been preserved as to the nature of her malady.

In the treatment of conjugal syphilis it will be found that the difficulties increase with the age of the diathesis and the clearing up of all incriminating evidences of its nature. As syphilis progresses in its evolution the outbreaks as a rule become separated by longer intervals; the diathesis is silent, and the pathological horizon seems entirely clear.

The difficulties encountered from the opposition of the wife to treatment are now apt to be accentuated by the lukewarmness or opposition of the husband. "The husband," says Fournier, "at a certain stage of the malady, as soon as its evident manifestations have disappeared, as soon as the syphilis no longer expresses itself by external symptoms, becomes for you an auxiliary less than ardent. At first he was most zealous to obtain from you an active medication and to have you supervise its application, so later on you will find him indifferent when the ostensible accidents have been effaced; he no longer insists upon a preventive treatment. You were a 'savior'; you were welcome in his house a few months ago, but now 'that it is all finished,' 'that there is nothing more the matter,' your presence with his wife, your visits, your prescriptions, your

treatment, which 'without doubt have done well, but which should have the merit of being less prolonged,' all this becomes for him a source of vexation, of irritation, of disquietude, by renewing disagreeable souvenirs, by prolonging a difficult situation naturally calculated to excite suspicion. In brief, to speak clearly, this husband longs for nothing more than to be disembarrassed of you, and your disappearance from the scene will be a veritable deliverance for him. Hence, this lamentable consequence—viz., that every married woman contracting syphilis under the conditions we are now considering will never be otherwise than insufficiently, very incompletely treated, and will on this account remain exposed to the most serious dangers in the future. Such is the invariable history of women who have been infected by their husbands. In the beginning of their disease these women have been treated some little; they have been 'whitewashed,' to use a common but consecrated expression. Then the physician is hastened into relinquishing a treatment which might excite suspicion and become compromising for the husband. As soon as possible the physician is dismissed, and things rest there. The syphilis does not relinquish its hold upon these unfortunate women. Despite their quality of married women, of virtuous women, ten, fifteen, twenty years later it is manifested by accidents of diverse forms, more or less severe; very serious sometimes, even mortal. . . . In this one, for example, a phagadenic syphilide which invaded the face and disfigured it most horribly; that one the loss of a nose; another a rectal stricture, which has to be operated upon, with failure to relieve the patient; another a cirrhosis which, misunderstood as to its nature, carried her off rapidly; still another, lesions

of the cranial bones and cerebral gummata which produced epileptiform attacks, hemiplegia, gradual failing of the intelligence, dementia, and death."

Finally, in this class of cases the husband should be informed of the probable and almost certain lamentable result of a pregnancy occurring under these conditions. The physician should impress upon him the necessity of avoiding by all means his wife becoming pregnant. The prophylaxis of hereditary syphilis by the interdiction of pregnancy, however shocking it may appear to certain moralists, is a sanitary measure which is justified under the circumstances. We have seen that pregnancy under such conditions will almost inevitably result in abortions, stillborn or syphilitic children. No woman, no matter how strongly her maternal instinct may be developed, but will prefer a temporary sterility to bearing a tainted child. The husband will be all the more ready to accede to this demand on the part of the physician when it is coupled with the assurance that he may hope after a sufficient period of time and treatment to have healthy, well-formed children who will bear no compromising stigmata of his disease.

CHAPTER XXIX.

HUSBAND SYPHILITIC, WIFE SYPHILITIC AND PREGNANT.

THE climax of the situation created by the introduction of syphilis into marriage is reached when to the contamination of the wife by the syphilitic husband there is added impregnation.

When the parents are both syphilitic at the time of impregnation, especially when the disease is recent and active, infection of the infant is almost inevitable. Statistics show that in the first year of syphilis, *l'année terrible*, as it is termed, from the point of view of heredity, the proportion of infants that escape is so exceedingly small that contamination of the child may be considered an almost foregone conclusion. Still, the situation is not altogether hopeless. There is a possibility that the child may escape the parental disease, especially when one or both parents have been under the influence of specific treatment before the date of procreation, very exceptionally even when neither has been treated, since experience proves that there is nothing constant in heredity.

As before stated, the hereditary transmission of syphilis may take place in three ways: (1) through the infected sperm of the father; (2) through the diseased ovum of the mother; (3) through the uteroplacental circulation.

In the first two, infection can take place only at the

moment of conception. Contamination of the foetus through the uteroplacental circulation may be effected during the course of pregnancy. In either alternative the infant may die *in utero* or be brought into the world at full term viable, though syphilitic. Death *in utero* is, however, more likely to occur when contamination is simultaneous with conception.

What are the resources of medical art in averting this prospective peril to the infant or in diminishing its dangers?

As before stated, the influence of specific treatment given during a period anterior to the date of conception in correcting the hereditary transmissive influence of one or both parents may be considered definitely established; likewise the influence of specific treatment upon the child after birth is beyond question. When the child is born syphilitic it may be subjected to treatment with the prospect of cure. Unfortunately, many syphilitic infants born viable are so profoundly diseased that they die soon after birth and before they can be brought under the influence of specific treatment. It is possible to modify the intensity of the syphilitic infection, and thus prevent this post-natal mortality by a precocious treatment during its intrauterine existence?

Diday doubted the power of mercury given to the mother already *enceinte* to cure the syphilis of the infant she carries. This doubt is shared by others. It will be admitted that when treatment of the mother begins after conception its curative influence upon the child she carries is difficult of formal demonstration. We are reasoning upon what occurs in the dark, which can neither be seen nor apprehended, and which can only be judged by apparent results at birth.

Theoretically there is nothing improbable in this view. If mercury may be conveyed to the child indirectly through the mercurialized milk of the mother, still more should mercury be conveyed to the infant through the mercurialized blood of its syphilitic mother; and if, as is generally conceded, mercury administered to the nursing mother may, through the medium of the milk, favorably affect the syphilis of the child she is nursing, we may assume that mercury given to the mother when pregnant may modify her blood and, through the more direct channels of the uteroplacental circulation, favorably affect the infant. Leaving theoretical considerations aside, the value of specific treatment given to the syphilitic woman during the period of gestation is well attested. Such treatment has a marked influence in preventing abortion and bringing the pregnancy to full term, resulting in an infant viable though syphilitic.

Another result observed from specific treatment is that pregnancy may result in a healthy child bearing no stigmata of the disease. Langlebert, Fournier, and other authorities have reported numerous cases of this character. Loewy's observations show that in a large number of pregnant syphilitic women treated by inunction, abortion was reduced to 13.5 per cent., while in those not treated the ratio was 30 per cent. Fonberg found that treatment reduced the number of abortions from 28.5 per cent. to 14 per cent.

While the advantages of the specific treatment of syphilitic pregnant women are established beyond all possibility of doubt, certain disadvantages under the special conditions created by pregnancy have been alleged. It is well known that during the period of gestation there are apt to be disturbances, more or less marked, of important physiological

functions—disorders of the digestive apparatus and various gastrointestinal troubles; the anæmia of pregnancy is characteristic and well known. There is no ground for believing that mercury causes or intensifies the anæmia of pregnancy; administered judiciously, it is rather a preventive of syphilitic anæmia, and from this point of view mercury has been termed *le fer de la verole*. As regards its gastrointestinal and other irritating effects, it is possible in most cases to obviate this inconvenience while still utilizing the benefits of the drug. Modern science has placed at our disposal new preparations of mercury and new methods of administration which may be employed. The irritating effects of mercury upon the stomach and bowels may be circumvented by its hypodermic use. In addition, this method presents the advantages of exact dosage, accuracy of administration, as well as increased efficacy.

Some authorities have objected to mercurializing pregnant women on the ground that it produces abortion. This *post hoc* conclusion is evidently based upon a wrong interpretation of clinical facts. It could only be arrived at by ignoring the syphilis of the mother as the most powerful abortifacient and the probable fact that the abortions observed under such circumstances were due to the disease for which it was given and not to the remedy.

The general consensus of opinion among more modern authorities is that mercury carefully and conservatively employed during the period of gestation does not injuriously affect the woman or imperil the child's life. On the contrary, it is of the most inestimable value in preserving both the mother and child from the dangers of the disease. The rule of conduct, then, which may be formulated for the

physician is that mercury should be given to the syphilitic woman during the entire course of her pregnancy. It should be administered by the method most compatible with the gastric or other susceptibilities peculiar to pregnancy. The object of the physician should be to develop the full therapeutic efficacy of the drug without the production of ill effects. The treatment demands good clinical judgment, careful watching of the effects of the drug, and intelligent management. Ricord says: "The period of gestation in syphilitic women, far from contraindicating treatment, demands attention and precaution within the bounds of prudence. The author has seen very many more abortions among syphilitic women who had not been treated than among those who, taken in time, had been subjected to mercurial medication." Fournier's statistics have already been given as to the efficacy of specific treatment administered to the mother as a prophylactic measure for the offspring.

CHAPTER XXX.

RÉSUMÉ AND CONCLUSIONS.

FROM this review of the dangers introduced by syphilis into marriage it will appear that in dealing with matrimonial syphilis the sanitary office of the physician is:

1. To prevent infection of the wife and transmission of the disease to the offspring. This constitutes the capital predominant indication.

2. When the wife is infected the cardinal consideration is that she should receive the benefit of prompt and sufficient specific treatment, both in her own interest and that of the children she may bear.

3. When the wife is infected and pregnant the object is to avert or diminish the consequences of the disease upon the offspring.

So far as the strictly medical part of the physician's duty is concerned the indications are plain and precise. Medical science has formulated the rules of specific treatment in a clear and definite manner. When it comes to the practical application of these indications in the altogether special conditions created by marriage numerous difficulties are encountered. These may demand secrecy, concealment of the nature of the disease, of the remedies employed, and the practice of duplicity and deceit.

In carrying out this program there is imposed upon the

physician a rôle which is not only difficult, but often he has to play a part which may be exceedingly distasteful and even repugnant to him; and when he has successfully played this rôle it is never to an appreciative audience.

An outline of the development and *dénouement* of many of these domestic dramas may be traced most often about as follows:

ACT I. A man has contracted syphilis and has also contracted an engagement to be married. His syphilis is in the contagious stage. The physician, recognizing that his disease is dangerous not only by contact but through inheritance, and foreseeing the double disaster which would almost inevitably follow a premature marriage, warns him of these dangers and insists upon delay until they can be corrected. The patient, for various reasons personal to himself, refuses to forego the marriage, and the physician is compelled to fold his arms in helpless impotency, to guard the guilty secret of the man who is about to commit a crime against an innocent woman, to stifle his conscience, and repress that humane impulse which prompts the protection of the innocent and helpless.

ACT II. The marriage is consummated and the wife exposed to contamination, and the children she may bear to death or disease. The husband has to be treated secretly, to conceal all incriminating evidence of his disease, and "to act as if he had nothing." In so doing he most frequently precipitates the disaster, which is indeed almost inevitable, in playing his self-imposed rôle.

ACT III. The wife is contaminated, with or without the additional misfortune of pregnancy. The physician recognizes the great importance of giving her a prompt and

thorough treatment, a treatment which must be prolonged for two or three years, as the only sure guarantee of her preservation from the tertiary consequences of the disease. Here, again, the fatal fear of exposure of the husband's secret, which he is now more than ever anxious to guard, comes in to complicate the situation. The physician is to organize a program or plan of action which contemplates the treatment of a woman during a prolonged period, and which has for its essential feature the condition that she must be kept in ignorance of what she is being treated for. In other words, this treatment must be compatible with the mystery, the secrecy which must be observed, the deception which must be practised. To carry out this program requires tact, diplomacy, finesse, and it may be the exercise of other qualities scarcely compatible with one's sense of professional dignity.

ACT IV. The long campaign of duplicity and deceit has been brought to a successful issue. Although perilously near to failure at times, failure has been averted by adroit and intelligent management. The wife has never suspected or positively learned the nature of her disease, pregnancy has been averted, or it has occurred under the favorable condition that both parents have been under the full influence of specific treatment at the time and has terminated successfully. A child or children are born, healthy, well formed, and free from specific taint; the husband has been spared the indignation and contempt of his wife, who has not realized the nature of the wrong done her. The situation has been saved, even to appearances. Now for the epilogue, so far as the physician is concerned.

What is the physician's reward for a course of action

which involves not simply the exercise of medical skill in treating syphilis, but the exercise of certain artifices which he feels to be unworthy of him and which can only be justified by the motives of a beneficent intent? Does the rôle of discreet professional adviser and devoted friend receive the grateful recognition of the patient?

Certainly he has the satisfaction of having fulfilled a social as well as a sanitary duty, of having saved an innocent woman, if not from infection, at least from the worst consequences of such infection, and of preserving from death or disease her children. Let him enjoy the approval of his conscience, but let him not indulge the vain hope of the patient's appreciation of his services.

Long before the case is brought to a successful issue the patient's interest in the physician's efforts begins to perceptibly wane. With the attenuation of the diathesis by time and treatment comes the even more marked attenuation of the patient's appreciation. When the pathological horizon has cleared, the one cloud that disturbs the serenity of the patient is the physician himself. His presence is a reminder of the stormy days of the past, and his effacement from the scene speedily follows.

In no other class of cases is the traditional ingratitude of patients so signally and constantly exemplified. Fournier's experience in this regard has already been quoted (page 288). Diday's testimony as to the ingratitude of patients who have been rescued from a desperate situation by the wise and intelligent management of a discreet physician is concurrent with that of others who have had practical experience with cases of this character:

"The friend of evil days, the storm once passed, becomes

the inconvenient confidant whose presence recalls the fault one has begun to forget, excites fear of a revelation which one would at any price avoid, and politely, but distinctly, he is dismissed, a new victim of the legendary ingratitude of patients. There only remains for him to meditate upon the exquisite consolation offered in a similar situation by Dr. B., to a confrère who had recounted to him his griefs: 'In such a case, my dear friend, there are only two things for the physician to do: to envelop himself in his dignity, and—always mark well the visits.' "

Many physicians wisely adopt the practice of a distinguished French confrère who, in turning over one of these cases to Diday, remarked, "When syphilis enters a household, *moi j'en sors.*"

CHAPTER XXXI.

THE SYPHILITIC WOMAN AND MARRIAGE.

THIS study of the relations of syphilis with marriage has been based upon the assumption that it is the husband who is the guilty offender and the wife the innocent victim. This view of the comparative culpability of the sexes for the introduction of syphilis into married life does not proceed from any chivalrous desire to exonerate the woman from her full share of responsibility for the evils we have been considering. It is based upon a recognition of the relative virtue of the sexes and upon the observed fact of the absolute rarity of conjugal contamination through the fault of the wife.

Multitudes of unmarried women have syphilis, but it is an exceeding rarity to find it in marriageable women; unchastity in women who aspire to marriage is altogether exceptional.

In the introduction of syphilis into the family the rôles of Adam and Eve are reversed; it is the man who plucks the forbidden fruit and gives it to the woman to eat; it is the husband who receives the poison from the prostitute and distributes it to his family; it is the sins of the father that are visited upon the children even unto the third generation. When we wish to discover the origin of syphilis in a household the time-honored detective maxim must be changed into *cherchez l'homme*.

However rare it may be, it is to be observed that the

husband who acquires syphilis from his wife is by no means mythical.

1. A woman may have acquired syphilis by kissing a syphilitic child or lover, or from some other accidental extragenital inoculation; she may have been a nurse and acquired the disease by nursing a syphilitic child; numerous instances of innocent contamination in this way have been recorded.

2. She may have been a widow and received syphilis from her former husband.

3. She may have contracted syphilis in the usual, habitual way before marriage or extraconjugally after marriage. Cases of the last category are almost exclusively confined to the lower or more vicious and abandoned classes of society.

BEFORE MARRIAGE.

As before remarked, it is exceedingly rare to encounter these cases in ordinary private practice; still more rare that the physician is consulted as to the propriety or safety of such marriages. It may happen, however, that a young woman has been extragenitally infected—it may be by kissing or other accidental inoculation—and she consults the physician in regard to her marriage. She wishes to know whether she can enter into this relation without danger to her husband or to her children.

So far as the risks of contagion to the husband are concerned, they are no more numerous or imminent than those which the syphilitic husband carries into marriage. The woman is far less liable to have mucous patches in her mouth of a constantly recurring character and which are among the

most common sources of contagion. On the other hand, she is far more prone to the occurrence of mucous patches of the genitals. Owing to the anatomical conditions peculiar to the female genitalia, the greater extent of surface, the moisture and contact of opposing surfaces, mucous patches find here a soil favorable to their germination. They occur in the form of erosive papules, moist papules, condylomata, etc.

The clinical characters of these lesions are too well known to merit description. Their secretion is ultra-contagious and they constitute the most common sources from which syphilis is propagated. These secondary manifestations are not confined to the external genitalia, but are often found in the uterovaginal cul-de-sac, and especially upon the neck of the womb in the form of small erosive papules, isolated or grouped. Moist papules in this region frequently become exulcerated and are distinguished only by their oval form and opaline appearance from erosions of non-specific origin.

The physician should explain to the woman fully and in detail the dangers of contagion she would carry into marriage from these and other lesions developing upon the body which have been referred to in connection with masculine syphilis.

When it comes to the question of the risks to the children she may bear, they are infinitely more serious. The influence of maternal heredity is much more potent and pronounced and of longer duration than that of paternal heredity, and the period of prematrimonial probation must be correspondingly prolonged. Unless the syphilitic woman renounces all idea of maternity and takes every precaution to guard against this eventuality, the period of prematrimonial proba-

tion should never be less than five or six years from the date of infection.

She may conserve her aptitude to procreate syphilitic children for a much longer period, exceptionally for ten or fifteen years. That this aptitude may be attenuated or corrected by specific treatment rests upon authentic clinical evidence, but, like the preventive treatment of syphilis in general, it does not always succeed, and results cannot be absolutely guaranteed. The most favorable conditions for success appear to be that the specific treatment should be begun before the date of impregnation and the patient be under the active influence of mercury at the time.

The physician should use every effort to prevent the premature marriage of a syphilitic woman. He should represent to her not only the dangers to which she would expose the man whom she marries, but also the dangers to herself in the way of scandal and public exposure and the disgrace which would attend a divorce.

AFTER MARRIAGE.

When a married woman consults a physician and he finds she has syphilis, too much caution cannot be exercised in announcing the diagnosis. The woman may have been innocently infected and be ignorant of the nature of the disease; it may happen that she is a widow and has received syphilis from her first husband, marries again, and carries the infection into the new conjugal relation. In no more signal way could the posthumous vengeance of the defunct husband be visited upon his successor, who may not only be exposed to the risks of infection himself, but his own chil-

dren may inherit the taint transmitted through the wife and mother by his predecessor.

The woman may have contracted the disease in the habitual way before marriage or extraconjugally after marriage. In the latter case the woman is not apt to make a frank avowal of her fault to the physician, that she has contracted it from an outside source, and he, ignorant of the origin of the syphilis, assumes that the husband is the offender.

The rule of conduct to be observed by the physician is that before treating a married woman for syphilis he should place himself *en rapport* with the husband and satisfy himself by non-compromising questions whether his suspicions are correct. If the husband does not at once admit that he has syphilis, the physician should manœuvre warily in this field of reconnaissance.

If the syphilis of his wife is of extraconjugal origin the husband may know nothing of its existence, and a single maladroit question may arouse his suspicion and precipitate most serious consequences. The physician has no more right to disclose the fact of the wife's syphilis to the husband than he has to disclose the husband's syphilis to the wife, assuming that they are both of extraconjugal origin. An experience of my own may illustrate this point as well as exemplify one of the curious and bizarre situations created by syphilis in the family:

Some years ago a prosperous-looking, middle-aged gentleman presented himself at my office, evidently laboring under some excitement. His first question was, "Doctor, how long does diphtheria last?" To my reply he said: "The reason I ask you this question is that my daughter-in-law, who lives with me, was taken sick six weeks ago with a bad sore

throat, which the physician who was called pronounced diphtheria. He at once engaged a trained nurse, and in a few days brought in another physician in consultation. They gave her antitoxin injections, which brought out what they called an antitoxin eruption. Now, she has not seemed to be very sick at any time, but her throat does not appear to be any better than it was six weeks ago. I became dissatisfied with the treatment, and, as I pay all the bills, I told the doctors this morning that they need not call again. Now, I want you to see her and give me your opinion."

Upon my visit I found a young, rather healthy-looking woman in bed with a trained nurse in attendance. Examination showed a bad syphilitic throat, with confluent mucous patches on the tonsils, uvula, and posterior pharynx. She also had a generalized, very characteristic erythematopapular eruption. I prescribed for her, giving the prescriptions to the nurse with general directions, among which was that the patient might get up and be dressed. The father-in-law, who had come in during my visit, followed me down to the door. To his question, "Well, doctor, what is the trouble?" I replied that I would prefer to talk with her husband, and requested that he should come to my office. The old gentleman blurted out: "Now, doctor, there is no use beating around the bush. I have suspected for some time that she has syphilis, and now I know it. When you were putting on your overcoat I looked at the prescriptions that you left with the nurse. One of them had hydrargyrum in it; I know that hydrargyrum means mercury, and mercury means syphilis."

Without confirming his suspicions, I again told him that I would only talk with her husband and left. The old gentle-

man overtook me on the sidewalk, saying: "Doctor, it will never do for you to talk with her husband. I know he has not got syphilis, but my younger son has, and his brother knows it. If he finds out that his wife has the same disease, he will put two and two together, and there will be a fratricide in this family."

I explained to him that the disease might be conveyed accidentally by kissing or other innocent contacts. He must have made the most of this extragenital theory in his explanation to her husband, as there was no fratricide in the family. I attended the woman for two years, and she never once questioned me as to the nature of her trouble. I am satisfied she knew all the while.

If the woman has been innocently infected there will, as a rule, be no difficulty in persuading her to make a full explanation to her husband of the serious nature of her trouble, and thus enable him to protect himself from contagion and co-operate with his wife in observing the suggestion as to the necessity of the interdiction of pregnancy.

If, on the other hand, the woman has received syphilis in the habitual way, either from a misstep before marriage or from an extraconjugal source, there is no probability that she would be persuaded to make an avowal of her fault to her husband. An avowal on the part of the woman is, perhaps, less strongly to be urged, in view of the almost inevitably serious and perhaps tragic results which would follow such a disclosure. The woman may realize that her social preservation is involved in the concealment of her guilty secret. While, from a purely ethical standpoint, sex does not qualify crime, the standards of morality approved by society are not based upon the equality of men and women in this

regard. Society is most indulgent to the moral delinquencies of men and most implacable in its condemnation of the same delinquencies in women. What is regarded as a mild peccadillo on the part of a man becomes on the part of a woman a monstrous, unpardonable crime, which may thrust her beyond the pale of social recognition with no hope of rehabilitation.

In such cases the duty of the physician is to guard the wife's secret, to instruct her as to the sources of possible infection, the modes of contagion, to suppress forthwith contagious accidents by a vigorous and energetic treatment, and to interdict pregnancy. This will be all the more easy, as the woman will be assured that her child will almost certainly be aborted or be born with syphilitic stigmata which would reveal the nature of her disease.

CHAPTER XXXII.

SYPHILIS AND NURSES.

THE birth of a child tainted with syphilis introduces into the family a new and dangerous focus of infection, since there is no better fact established than that the cutaneous and mucous accidents of hereditary syphilis are extremely contagious. The child may be a source of multiple contagions; abundant clinical observations prove that nothing is more dangerous to the persons surrounding it than a syphilitic infant.

In France and other Continental countries, where it is the custom to confide children at birth to wet-nurses, the question of the nourishment of a syphilitic infant assumes a serious importance. A syphilitic child will almost certainly infect a healthy nurse; the nurse upon returning to her home may infect her husband, her own children, and through them numerous others of her entourage. Medical literature abounds with records of family and social epidemics, affecting, in some instances, as many as sixteen, eighteen, twenty-three persons or more, the origin of which could be traced to a syphilitic nursling.

In view of the multiple contagions which may originate from a syphilitic nursling, the French law imposes a special obligation upon both the parents and the physician that the nurse should be informed of the nature of the child's disease

before she assumes her duties, although it is evident that compliance with the law compels a violation of the secret that one or both parents may be syphilitic. In case of omission to give this information to the nurse, she may recover heavy damages, or a lifelong pension, for the injury received from the infection.

The physician's duty in a situation of this kind is to oppose the employment of a wet-nurse and insist that the mother should nurse her own child. It is a law of syphilis, first formulated by Colles, that a child syphilitic from birth never communicates the disease to its own mother by nursing, even though she herself may be apparently exempt from the disease. Maternal nursing should be insisted upon, even when the child shows at birth no signs of having inherited the parental disease, since the possibility of its infection cannot be excluded until a period of several weeks or months has elapsed.

In this country, where wet-nursing is not so much in vogue, and in cases where the mother is unable or unwilling to nurse her child artificial nourishment is usually employed, it might appear that this element of danger is eliminated. On the contrary, when an ordinary or dry-nurse is employed for the care of a syphilitic infant, the risks of infection differ only in degree. While she is not exposed to contagion from the child's mouth while nursing it, yet she is exposed to multitudinous risks of inoculative contact, incident to preparing or tasting the child's food to see whether it is too hot or too cold, from washing and dressing the infant, from sleeping in the same bed, and from the thousand and one attentions the infant constantly requires. In view of the dangers of infection incidental to the occupation of the dry-nurse in

caring for a syphilitic child, it is a question whether the physician would not be justified in warning her of these dangers and of the necessity of taking precautions to guard against contagion.

There is another aspect of the relations between the nurse and the infant in respect to syphilitic infection of interest in this connection. The child may be healthy and the nurse syphilitic. The child is liable to become infected by the nurse and distribute the contagion to the mother and to other members of the family.

In employing a wet-nurse the physician is usually consulted, and it is his duty to make the most careful and thorough examination of the nurse in order to be sure that she is free from any taint of syphilis before she is engaged. In employing a dry-nurse for young children, the physician is rarely consulted. My own experience would lead me to believe that it is by no means infrequent for women with syphilis, especially foreigners, to act as nurses for children. In my service at the New York Hospital many women applying for treatment for syphilis have given their occupation as "nurse," apparently oblivious of the fact of their disqualification for this duty, not only on moral grounds, but especially from the contagious character of their disease. In two or three instances nurses have actually brought their little charges to the hospital with them—the parents, of course, being ignorant of this fact—giving as a reason that they could not "get off" in the afternoon. In all these cases I succeeded in having them give up their employment, either by persuasion or by threats of exposure.

A situation may present itself when a syphilitic nurse to young children, although warned of the danger to which she

exposes them, obstinately refuses to give up a good situation. It then becomes a question, in view of the risks of infection to the children, their natural protectors, the parents, being ignorant of this danger and unable to protect them, whether the physician is not justified, when persuasion fails, in resorting to the extreme measure of warning the parents of the dangers their children incur of infection from the nurse. The French law, it would appear, while interfering to protect the wet-nurse from infection by the syphilitic child, does not extend the same protection to the healthy child against infection by the syphilitic nurse. There is no pecuniary liability of the nurse in case the child receives infection, possibly because she is seldom pecuniarily responsible for damages.

CHAPTER XXXIII.

SYPHILIS AND DIVORCE.

THE relations of syphilis with marriage have a legal as well as a medical aspect. The introduction of syphilis into marriage entails not only physical damage to the health and life of the wife and children, but it involves a question of legal responsibility; divorce as well as disease may play a rôle in the domestic tragedy. The communication of syphilis in married life by one partner to the other, or even the exposure of one partner to contagion from the disease, may affect (1) contracts to marry, (2) annulment of the union, and (3) divorce.

The ideas of most medical men as to the legal consequences of the existence or communication of venereal disease in the marriage relation are vague and incomplete; yet it is of the utmost importance that the physician should have an understanding of the law of marriage and divorce as applied to these diseases. In his efforts to persuade a syphilitic man to defer his marriage until it is safe, the physician should, if necessary, hold out as a threat the legal consequences incurred in transmitting his disease to his wife. This is not only a valid but in many cases may be a sufficient argument in dissuading him against contracting a premature marriage. Then, again, the physician may be consulted by a married woman who has been infected by her husband and who con-

fides to him her griefs, and at the same time her determination to no longer live with the man who has done her this grave injury. In order that the physician may advise intelligently in a situation of this kind, he should be familiar with that branch of judicial law which relates to syphilis and divorce. He should know what the law accepts as good ground for divorce, what must be the concurrent conditions of its intervention, as well as the attendant disadvantages to the complainant which are inseparable from a suit for divorce in which syphilis is pleaded as a cause of action.

In many cases of marital infection rupture of the marriage occurs without an appeal to the law. The woman, on receiving proof of her husband's infidelity in the shape of venereal disease, abruptly leaves the conjugal bed and returns to the paternal roof. In other cases there is an effective separation between the husband and wife while the outward appearances of the marriage relation are still preserved.

We may now inquire what redress the law affords a woman who has been infected by her husband with syphilis in the marriage relation.

In the first place, it is to be observed that the mere existence of venereal disease in one partner or even its communication to the other does not *per se* constitute sufficient ground for divorce. There must be certain concurrent conditions of an aggravating character presently to be considered.

It is to be noted that in no civil code is venereal disease specifically mentioned as a statutory ground for divorce, nor is there any penalty laid down for its transmission. The word "syphilis" nowhere appears upon the statute

books of this or any other country. The nearest approach to it is in the civil code of Kentucky, in which it is stated that the contraction of a loathsome disease by one of the spouses is a specific ground for divorce, and it has been held that venereal diseases are to be included under the term "loathsome disease."

The absence of any specific legislation in the matter of the transmission of syphilis may at first sight appear to the medical man as evidence of the failure of the law to recognize the grave physical injury which may result from the communication of this disease. The wisdom of the law is, it is claimed, shown in the laying down of certain general principles, the application of which is left to the judgment of the court according to the circumstances of the particular case. If syphilis always bore the stamp of immorality; if it were exclusively contracted by impure intercourse before marriage or through adulterous relations after marriage, there would be some grounds for this criticism; but, as is well known, syphilis is not necessarily a venereal disease; it may be contracted accidentally through various professional and industrial relations, and it may be innocently communicated by one partner to the other in marriage.

If the code specifically decreed that one partner might demand a divorce because of syphilis communicated by the other, the strict construction of the law might work great injustice, as, for example, in the numerous cases recorded where a nurse has acquired the disease from a syphilitic nursling, and has communicated it to her husband. In such cases the woman may be entirely ignorant of the nature of her disease, and cannot be held either morally

or legally responsible. In cases of *unconscious syphilis* the responsibility of the conjoint who gives the syphilis is legally as well as morally attenuated.

Fournier reports the case of a physician who presented a chancre of the tonsil after having put in his mouth a paper cutter which he had previously used as a tongue depresser in examining the throat of a patient; the nature of the lesion was not recognized, and he communicated syphilis to his wife. The law cannot foresee or provide against these possible contingencies, and it perhaps wisely includes the offence under some general rather than under a specific statute.

In order to give a clear understanding of the legal relation of syphilis with marriage, the author has endeavored to present a digest of the decisions in some of the more important cases which have come before the courts for adjudication, from which deductions may be drawn as to the spirit of the law and the general rule of practice in dealing with cases of this character.

For the citation of cases and rulings which have come before the courts in this country the author is indebted to a paper in a recent number of the *American Law Review*, by C. F. Huberich, of the University of Texas, on "Venereal Disease in the Law of Marriage and Divorce," and to the admirable monograph of Thibierge on *Syphilis et Deontologie*, for the knowledge of the present position of jurisprudence in France in relation to syphilis and divorce.

While the principles which underlie the decisions made by different tribunals are practically the same, the rulings are not always uniform and appear to be somewhat contradictory. This is not surprising in view of the varying circumstances

and accessory conditions which attend the transmission of venereal disease in the marriage relation. Some of these circumstances are held to aggravate, others to mitigate the responsibility of the offender, and they must all be taken into consideration and given due weight in arriving at a decision. Special cognizance is always taken of that cardinal principle of equity which guides the administration of justice in all actions involving civil or criminal responsibility—viz., whether the act charged has been committed *knowingly* and *wilfully*.

While syphilis is not specifically mentioned as a cause for divorce in the statute books, actions for divorce may be instituted upon the ground of "cruelty," as it is generally held by the American and English courts that the communication of this disease constitutes cruelty, which is a statutory ground for divorce. The French courts provide that one partner may demand divorce from the other on the ground of "grave injury," and, since the communication of syphilis in marriage is held to be a grave injury, proceedings for divorce are usually instituted upon this ground or upon the ground of infidelity. The civil codes of almost all civilized countries recognize infidelity as sufficient ground for divorce, and if this charge can be proven the graver injury of syphilitic infection is usually passed over in silence.

CONTRACT TO MARRY. The existence of venereal disease in either party to a contract to marry is sufficient ground for the other party to refuse to fulfil the engagement, and therefore constitutes a valid defence in a breach of promise suit. Although this point has not been judicially determined in England, it has been laid down as a general rule that

if the condition of the parties was changed after the making of the contract it was good ground for either to break off the engagement.

Few actions have been brought for breach of promise in which this defence was set up, as an indication of the line of defence would be quite sufficient to induce any respectable or self-respecting woman to discontinue the suit. Still, such cases have come before the courts in this country for adjudication where the defendant in a breach of promise suit refused to perform the contract on account of the existence of a venereal disease in himself.

The rule of the law as given by Huberich is that where a venereal disease is contracted prior to but was not known to exist at the time the contract to marry was entered into, or when such disease is contracted subsequent to the making of the contract to marry, but through no wrongful act on the part of the defendant, its existence furnishes a good defence for an action of breach of promise. In his ruling in one of these cases just described the judge states:

"We cannot understand how one can be liable for not fulfilling a contract when the very performance thereof would in itself amount to a very grave crime not only against the individual, but against society itself. . . . The law will constrain no man to assume a position so full of peril as to place within his reach the lawful means of gratifying a powerful passion at the risk of endangering the health or life and the possibility of bringing into the world children in whose constitution the seeds of the father's sin shall lurk."

AS A GROUND FOR ANNULMENT. The existence of a venereal disease in either party at the time of the marriage

may render the marriage voidable. The annulment of the union in some cases would seem to be based upon the rule of the law which recognizes permanent and incurable impotency a sufficient ground for divorce. In one of the cases the ruling was that "while there was no such malformation as rendered complete sexual intercourse impossible, there was a physical condition which rendered her (the defendant) incapable of healthy coitus. Every such act, by reason of her physical condition, was attended with great danger of communicating to him an incurable disease and endangering his health and life. . . . In the case at the bar the petitionee's organs of generation were at the time of marriage in an incurably diseased condition, which, while it did not physically render her incapable of copulation or of bringing into life a child, a mass of syphilitic sores, as good as dead when born, yet it did render copulation and procreation on the part of the petitioner impracticable, because the act endangered both his health and life."

In a noted New Jersey case the marriage was annulled on the ground of "fraud." The man had syphilis, although he had assured his intended that he had never had venereal disease. Upon discovering his deception she brought suit for the annulment of the marriage. The court held that "to annul a marriage for a fraudulent representation inducing the contract it must be shown that the fraud affected an essential of the marriage. An explicit statement by a man about to be married that he was not affected by the loathsome disease called syphilis, made when it was his duty to state the truth, and knowingly false, is such a fraudulent representation as affects an essential of the marriage relation." "The decree cannot be had upon the

uncorroborated evidence of the complainant. The contract of marriage is one of exceptional and peculiar character. It may not be abrogated or avoided by the parties thereto as other contracts are. On grounds of public policy the State has an interest in the status created by a marriage contract, and when made it can only be dissolved on grounds and by judicial proceedings sanctioned by law."

In the above case it was proven by the testimony of the physician who had treated him that the man had syphilis and was informed of the nature of his disease.

In another case, in which an action for the annulment of marriage brought by the wife on the ground that the defendant was constitutionally affected with syphilis, and where he had knowledge of his condition at the time he entered marriage, but failed to inform plaintiff of the fact, and she, immediately upon learning of it, and before the marriage was consummated, left him and refused to live with him as his wife, it was held that "his concealed disease was such as would leave with him no foundation upon which the marriage relation could properly rest; that the libellant could not live with him as his wife without making herself a victim for life and giving to her offspring, if she had any, an inheritance of disease and suffering. Few, if any, would be bold enough to say that it was the duty of the libellant on discovering the fraud, before consummation of the marriage, to give herself up as a sacrifice and to become a party to the transmission of such a disease to her posterity."

In another case annulment was decreed, although the parties had continued to cohabit after the nature of the defendant's disease became known to the plaintiff. It was

expressly held that such continuance of cohabitation could not be regarded as a condonation.

DIVORCE. "To constitute a ground of cruelty it is usually required that the disease should have been actually communicated to the complainant; that the complainant should be ignorant of the existence or nature of the defendant's disease at the time of its communication, and that the defendant should have infected the petitioner knowingly and wilfully. If all these facts concur, no hesitation in granting a divorce can arise unless there are facts showing condonation of the offence" (Huberich).

The weight of authority is that the disease must be actually communicated.

Dr. Lushington rules as follows: "However great the moral delinquency in consummating a marriage with the probable chance of communicating the venereal infection, I am not prepared to say that so doing constitutes legally an act of cruelty as understood in these courts. In order to constitute an act of legal cruelty there must be, in my opinion, an actual communication of the disease, and the running of the risk is not sufficient."

Lord Stowell held that "attempted intercourse with the complainant when the defendant was afflicted with a contagious disease would suffice to sustain a charge of cruelty."

In still another decision it was held that "a reasonable apprehension of injury is sufficient, and the complainant need not wait until the wrongful act is committed."

Justice Key, in a case before the Texas Court of Appeals, states: "A man may, as the result of his own debauchery, become so diseased as that living and cohabiting with him will probably destroy the health of his wife, and we are

not prepared to say that such fact would not of itself entitle a pure and innocent woman to a divorce, in the absence of specific proof that he had communicated to her a loathsome venereal disease."

Stress is laid upon the ignorance of the existence or nature of the disease on the part of the complainant. In one case in which the wife was informed of the disease of her husband and of its contagious nature, but continued for a year and down to the last moment of their living together to submit willingly to his embraces, she was denied a divorce.

On the contrary, where the complainant is ignorant of the nature of the plaintiff's disease, no case of waiver or condonation arises. A divorce was granted in a case where the husband had communicated syphilis to his wife, but had ascribed her syphilitic sore throat to drinking from an infected vessel, and continued marital relations with her.

In the French courts apparently no stress is laid upon this point, as it is hardly to be assumed that a woman would marry a man knowing him to be syphilitic or permit a consummation of the marriage unless through violence.

The French tribunals "consider the transmission of syphilis in marriage a grave injury and a cause of separation, whether the husband had been attacked before or after marriage, but attach the same gravity to the simple fact of exposing the conjoint to the contraction of this malady when the husband knows he had been attacked and recognized its contagious nature."

In all courts of law special stress is laid upon the knowing and wilful communication of the disease. The defendant must know that he had an infectious disease and that it

was attended with danger of infecting the other party, and it is a question for the courts to decide whether the defendant's statements upon this point are entitled to credence. Also, when the defendant believes himself cured at the time when the infection is alleged to have taken place, he is not guilty of cruelty.

It has been held that "the mere fact that the husband has communicated disease to his wife, whatever may be thought of it in other points of view, is not enough to constitute legal cruelty. It is abundantly clear that for this purpose the act must be a wilful one. Wilfulness may, however, be generally inferred from the fact of communication coupled with the knowledge on the part of the defendant of the existence of the disease in himself." It is to be understood that wilfulness does not imply a wish or intent to injure.

The Texas Court of Appeals held that lack of knowledge on the part of the defendant as to his condition merely renders his conduct less culpable.

"If a man knowing that he was suffering from a complaint of that sort had intercourse with his wife and did communicate it to her, even although he were to swear, and you were to believe him, that he did not mean to communicate it, I doubt whether you ought not to say that he had been guilty of cruelty. If he knew that his body was tainted and that he might communicate the disease; if he knew that he was running the risk of giving his wife the complaint from which he was suffering, and he did give it to her, I am disposed to think that would be an act of cruelty." "Whoever does an act likely to produce injury, and injury follows, can never excuse himself by saying that he hoped

a probable consequence might, by some good fortune, not follow."

A long series of decisions of the French courts might be quoted establishing the fact that syphilis is a cause for divorce, at least in cases where the disease has been knowingly communicated. The fact that the husband had before marriage a venereal malady and communicated it knowingly to his wife, represents to her alone an injury of a sufficient gravity to justify divorce. On the other hand, it has been decided that a wife cannot demand divorce for having been infected with a venereal disease when it is not established that it had been knowingly communicated by her husband. Also, that the communication of syphilitic disease to the wife by the husband is not a cause for *separation de corps* when at the moment of his marriage he believes himself cured and that the communication of his disease had been involuntary.

The French courts attach an especial importance as to whether the syphilis of the husband was contracted posterior to marriage on the general principle that the acts of the spouse anterior to marriage cannot in principle serve as a basis for an action for divorce. Exception of this principle has been made, however, in certain decisions in cases of transmission of syphilis.

It will be seen that the "concurrent conditions" upon which decisions are based are practically the same in all courts of justice. There are certain circumstances, however, which are held to aggravate or attenuate the charge of cruelty or grave injury. The French tribunals admit different degrees of responsibility in persons introducing syphilis into marriage.

First, it has been held as an aggravating circumstance that the disease has been communicated soon after marriage or in the first approaches.

Second, if the husband has transmitted the disease in conjugal relations imposed by marriage.

It has been held by an English court that an attempted intercourse, the husband forcing his wife to his bed, when he was afflicted with venereal disease, would suffice to constitute a charge of cruelty, although the disease was not actually communicated. It is also regarded as an aggravating circumstance when there is reason to believe that an infant conceived as a result of these relations will be born tainted with the disease.

The responsibility of the husband is increased when he has made no attempt to repair the damage to his wife's health by securing proper medical treatment, and especially when he has placed obstacles in her way of obtaining proper treatment, or sacrificed the care of her health to "false shame." On the other hand, it is regarded as a mitigating circumstance if the husband has promptly employed every means to secure proper and efficient treatment.

It would seem that the gravity of the accidents or the more or less severe results of the infection to the wife is not held by the courts as affecting the responsibility of the husband, as there is no question of damages or penal responsibility.

From this survey of the jurisprudence of syphilis and divorce it appears that when a woman has been infected with syphilis by her husband the law may grant her a divorce on the statutory ground of cruelty or infidelity. In the State of New York, where "infidelity" is recognized

as the sole ground for divorce, the charge of cruelty could not be pleaded.

Under the present conditions of the law the physician should advise his patient that syphilis should never be invoked as a cause of action for divorce unless it constitutes the chief or only phase of cruelty that can be alleged. The charge of infidelity, if it can be sustained, should always be the preferential plea. Infidelity on the part of the husband is in no sense a reflection upon his wife. The guilt, as well as the dishonor, rests upon the husband. The syphilis should be hidden, as it is not necessary to play this incriminating card. It does not affect the result, and when brought forward is ignored by the jurist.

If the fact is pleaded and established in the public courts that a woman has been made the recipient of a loathsome disease which is regarded as incurable and transmissible to her children, even if she is successful in gaining her suit, she must be branded as the bearer of a shameful disease, and her children, if she have any, must bear through life the stigma of syphilis.

The woman who seeks a divorce upon the plea of syphilitic infection by her husband should be fully informed of the ordeal before her. In the first place, it is necessary to furnish proof. While the existence of syphilis in the wife may appear as *prima facie* evidence that she has received it from her husband, it is by no means conclusive to the courts. She must prove (1) that her husband has syphilis; (2) that she has syphilis; (3) that the syphilis of the husband is the origin of her own. She must reveal certain secrets of private life, often disgusting details of shameful indignities to her person; she must be prepared

to face the inevitable scandal, the disgrace and publicity of divorce proceedings; she must appear in court or before a referee and testify to humiliating experiences, which are not always carefully guarded from the public. If her husband defends the suit he may falsely plead as a mitigating circumstance that he thought he was cured, did not know his disease was contagious, that the contagion was involuntary, etc. Even if successful, she will find that she has purchased her freedom at the price of humiliation and shame. The only punishment imposed upon the guilty perpetrator of the wrong is that he is denied the further privilege of dishonoring his wife's body. No wonder that many women, seeing no way of escape open, and realizing that the harm is done and cannot be undone, accept their fate and philosophically make the best of it.

Still, there are many cases of marital infection of such aggravating character that the self-respecting wife finds her situation simply intolerable and not to be endured. She feels that she must escape at any cost from the bonds that bind her to a man by whom she has been dishonored and diseased.

As the law now stands there is no civil or penal responsibility imposed upon the husband for the transmission of syphilis in the marriage relation. In addition, there are so many concurrent conditions to be complied with, so many loopholes of escape for the guilty partner from the elastic interpretation of what constitutes "knowing and wilful" communication, so many extenuating circumstances that may be pleaded, such as "I did not know I had the disease," "I thought I was cured," etc., that the existing laws do not constitute a sufficient protection. The question

of the practical wisdom of a specific statute penalizing the transmission of venereal disease in marriage will be elsewhere considered.

In regard to the physician's line of conduct in the matter of syphilis and divorce, it is rarely advisable that he should appear in the interests of his patient. The proof of the communication of the disease can be furnished by a medical expert appointed by the court for the purpose of making an investigation. If the physician has treated the wife, his prescriptions are always available in furnishing presumptive proof, at least, of the nature of the disease for which he has treated her. Especially should the attending physician not give a letter or certificate that she has syphilis and that he is treating her for it. In the first place, he may be the physician of both husband and wife, and should he give a certificate it would betray the secret the husband confided in him. In the second place, certificates of this character are looked upon with suspicion, and have even been rejected by the courts.

PART III.

SOCIAL PROPHYLAXIS.

1. The first part of the document is a list of names and dates, which appears to be a record of some kind. The names are written in a cursive script, and the dates are in a more formal, printed style. The list is organized into two columns, with names on the left and dates on the right. The names are: John Smith, James Brown, William Jones, Thomas White, and Robert Black. The dates are: 1810, 1811, 1812, 1813, and 1814. The list is followed by a section of text that is mostly illegible due to the cursive script. The text appears to be a description of the events that took place during the period covered by the list. The text is written in a cursive script, and the words are often difficult to read. The text is organized into paragraphs, with each paragraph starting with a capital letter. The text is followed by a section of text that is also mostly illegible due to the cursive script. The text appears to be a continuation of the description of the events that took place during the period covered by the list. The text is written in a cursive script, and the words are often difficult to read. The text is organized into paragraphs, with each paragraph starting with a capital letter. The text is followed by a section of text that is also mostly illegible due to the cursive script. The text appears to be a continuation of the description of the events that took place during the period covered by the list. The text is written in a cursive script, and the words are often difficult to read. The text is organized into paragraphs, with each paragraph starting with a capital letter.

CHAPTER XXXIV.

SOCIAL PROPHYLAXIS.

FROM this study of the relations of venereal diseases with marriage, it will be seen that these diseases, from their nature and mode of propagation, are intimately mingled with the sources of life; they affect the dearest interests and most sacred relations of human society, and their prophylaxis is of the highest social importance. The vitality of the race, the health of the family, and its productive energy are involved in the conservation of the integrity of functions which these diseases damage or destroy.

In the presence of these dangers, physical, moral, and social, which flow from the introduction of venereal diseases into marriage, society remains impassive and, one might almost say, indifferent. Through its instrument, the law, the State affords to the injured wife the doubtful remedy of separation or divorce, but it does not protect from this injury. The essential condition of the law's intervention is that the injury shall have been already received. This callous indifference may be traced partly to that peculiarity of human nature which accepts evils of common and every-day occurrence as inevitable and among the established order of things. Then, again, a certain cynical element of society regards the communication of disease in marriage as a matter between husband and wife with which society has nothing to do. The

chief cause of this indifference is ignorance of the significance of these dangers and the extent to which they prevail.

While it is the husband and father who conveys the infection to his family, and who is the responsible cause of the wreckage of the lives of his wife and children, yet all these innocent infections can be traced back to their original source in that irregular sexual commerce known as prostitution. It is evident, then, that the prophylaxis of venereal diseases in marriage cannot be considered apart and distinct from the prophylaxis of venereal disease in general. The peril to the family is but part of that vast venereal peril which so seriously menaces the public health, and which, with alcohol and tuberculosis, constitute the three great modern plagues that afflict humanity.

The best prophylaxis is not to circumscribe and limit the spread of these diseases after they have been introduced into marriage, nor yet to prevent their introduction by postponing marriage until the disease is cured. It is not to intervene by measures of prohibition at the last moment, when all arrangements for the marriage have been completed. The most efficient prophylaxis is to go further back and prevent the contraction of the disease which renders a man unfit for marriage. It is only by attacking the evil at its source that its baneful effects upon the individual, the family, and society can be prevented. The prophylaxis of venereal diseases and the prevention of prostitution are indissolubly linked. We cannot dissociate the effect from the cause.

It would be foreign to the purposes of this study to undertake the solution of the difficult problem of the social evil, but certain phases of this problem, more especially the measures to be employed for the protection of the marriage

relation from the diseases engendered by prostitution, may be considered.

In the first place, it may be positively affirmed that this is not purely a medical question. As Blascho has well said, "it is bound up with all the vast and complex interests of our social life"; it involves legal and moral as well as pathological questions.

The social evil has always been regarded as a corruptive force in society. It has a dual or, rather, a triple aspect. It is, in some of its manifestations at least, a violation of the law; it is an offence against morality and a prolific source of disease. The measures to combat the evil are: administrative, employed by the State; sanitary, by the medical profession; moral, by the clergy and religious teachers.

STATE MEASURES.

In mediæval times efforts were made to crush out the evil by force. Largely under the influence of ecclesiastical counsel the most severe and drastic measures, carried out under the most despotic authority—almost every conceivable punishment, flogging, branding, shaving the head, banishment, and death—were employed in vain. The experience of centuries has shown that prostitution cannot be annihilated by force. In the existing economic and moral conditions of society it is a necessary evil, not in the sense of being indispensable, but inevitable, and the only relief lies in the correction of the conditions of which it is the outgrowth.

Recognizing the failure of these brutal measures, the State has in modern times attempted to control and regulate a force for evil which it could not suppress. Previous to the irruption

of syphilis in Europe and its widespread extension, no consideration had been given to the diseases which are spread by vice. In the modern system of control the sanitary feature became an essential element.

REGLEMENTATION.

This system, which is employed in France and many other countries in Europe, has for its object the hygienizing of prostitution by eliminating all sources of disease in the women who are engaged in it. This was attempted by the official registration of all public women and their examination at stated intervals by physicians appointed for that purpose. If found diseased, the woman was sent to the hospital and detained until the contagious accidents were cured. If found free from disease, she received a certificate which permitted her to continue her vocation.

Aside from certain odious features, such as the licensing of prostitutes by the State, the inquisitorial character of the power given to the police to arrest upon the street any woman suspected of being a prostitute, etc., this system has proved to be defective as a sanitary scheme. One defect was to consider the public prostitute as the chief or only source of contagion. It failed to reach the large body of private or clandestine prostitutes, who are the most dangerous sources of contagion. Its fatal weakness was to ignore the masculine spreader of the contagion. The health officer of a port might as well attempt to prevent the importation of infectious disease from a plague-infested vessel by quarantining the infected women while permitting the infected men to go free.

While the Continental system of regulation has the incontestable advantage of hygienizing a limited number of public women, the evidence is by no means clear and conclusive that it materially diminishes the sum total of venereal disease in countries where it has been most perfected and employed. It has never been introduced into this country, with but one exception, as the policy of the movement encounters a strong hostility on the part of the public.

Public sentiment in this country has always been extremely sensitive to anything like legal recognition or sanction of prostitution as a status, and it is difficult to draw the dividing line between toleration and authorization. In fact, it is not possible to regulate by State control a status or trade without license of that trade under specified conditions.

It is but just to say that while the system of reglementation has for its most essential features the registration and medical surveillance of all women engaged in prostitution who could be brought under its control, it endeavors to prevent the entrance of young women into this life by refusing the registration of minors, unless hopelessly irreclaimable, and providing reformatories and other means for the rescue and restoration to honorable life of fallen women who wish to reform.

In 1872 a law drawn upon the lines of the Continental system of regulation was enacted by the Missouri Legislature. It was in operation only a brief period (about one year), when the law was swept from the statute books by an avalanche of protests coming chiefly from the clergy and the women of the State. The incidents attending the repeal of the statute were quite spectacular. "A petition praying for the repeal of the obnoxious law, signed by more than a hundred

thousand good people, was presented. The document was cumbersome. A wheelbarrow decorated with white ribbons and accompanied by a group of young girls attired in spotless white gowns was used, and on it the gigantic and emphatic protest against the licensing of vice was rolled up to the clerk's desk to be read. The counter-petitions, the most conspicuous signers of which were members of the medical profession, were entirely overwhelmed."

In this connection it may be said that doctors of divinity and doctors of medicine have always taken antagonistic views of sanitary regulation. The moral or religious elements of society have ever been the most determined foes to the sanitary regulation of prostitution, some on the ground that in hygienizing prostitution by sterilizing certain sources of contagion, it is rendered safe, and that this safety, however illusory it may prove, is a direct incitement, a provocation to debauch. Some ultra-moralists have even taken the extreme view that the diseases of vice are the safest guardians of morals.

Partly as a result of this antagonism to sanitary regulation, and partly because of the comparative failure of all methods hitherto suggested or employed for the control of venereal diseases, the sanitary authorities in this country have pursued a *laissez-faire* policy, a policy of inaction. As a result there is presented in this country the singular spectacle of a large class of diseases dangerous to the public health, confessedly contagious, essentially evitable, and yet absolutely ignored by our health authorities.

One reason for this inaction may be that the sanitary methods ordinarily employed for the control of cases of acute infectious diseases, viz., compulsory notification by

the physician and enforced isolation during the actively contagious period, are not practicable. It would be impossible to isolate sufferers from diseases so universal and ubiquitous during the entire period of their contagious activity. It is to be observed, however, that isolation of the sick does not represent the highest perfection or the sole resource of sanitary science; nor, indeed, is isolation necessary, since the spread of these diseases is effected only through voluntary inoculative contact, which is of course evitable.

This policy of inaction is largely due to the intrinsic difficulties growing out of the nature and modes of communication of venereal disease, and especially its shameful and secret nature. The report of cases to the sanitary bureau by physicians, which is essential to the successful working of any scheme of sanitary control, is not practicable. Here the medical secret dominates the situation. It would be impossible to secure the co-operation of the medical profession in reporting cases of venereal diseases coming under their observation which, by mentioning the name and address of the individual, would betray his secret.

The sanitary control of venereal disease is much more difficult than would at first appear. The problem is not only complicated by the shameful nature of the disease, but it is so interwoven with questions of infringement of private rights, restriction of individual liberty, and, finally, with questions of morality, that there has appeared no clear way in which the evil can be touched by the strong hand of repression.

MORAL MEASURES.

In this country the efforts to combat the social evil have taken the form of moral crusades, which have too often been campaigns of force and violence. From time to time a cry of alarm has been raised at the public peril created by the appalling conditions of vice in this and other cities. The strong arm of the law is invoked; the police are stimulated to enforce the law against certain public manifestations of prostitution. The only effect of these harsh and punitive measures is simply to disperse and scatter the evil, which was comparatively isolated in certain quarters. Unfortunately, dissemination is not destruction; it is simply sowing broadcast the seeds. Such crusades may make the evil less flagrant, less scandalous, the streets more orderly and decent, but the volume of vice and disease is not diminished; it is simply divided up and directed into other channels. They make vice more secret, more clandestine, and vastly more dangerous.

These emotional waves of excitement, which from time to time sweep over the community, are always of brief duration. Violent measures must always defeat the object in view, because they are of necessity intermittent and spasmodic. Violence is incompatible with the sustained and continuous effort necessary to combat an evil which possesses so many elements of permanence and vitality.

Failure has been largely written upon all these attempts to suppress prostitution. Some have done a little good; others have done much harm. Experience has amply proven that legislative force cannot suppress the evil; that no police or sanitary network is fine enough to serve as a

drag-net for the offenders. The attempts made to apprehend the female offender only serve to make her more elusive and cause her retreat to inaccessible places. If successful they would subserve no useful purpose, as the equally responsible male factor cannot be reached. If every prostitute now living were swept out of existence, it would only act as a temporary check to the spread of venereal diseases. There is an ample supply of infectious material in the male prostitutes to restock a new plant, which would be speedily found in obedience to the law of demand which creates the supply.

It is to be noted that in all of these efforts to suppress or control the social evil the woman has been regarded as the chief offender and the responsible cause. All repressive measures employed by the State to crush out the evil have been directed against the woman. All sanitary regulations to stamp out the diseases incident to vice have applied only to the woman. All moral crusades to purify the social atmosphere have been directed against the woman alone. They have culminated in descents upon houses of prostitution; the impounded women are fined or sent to the workhouse, while their equally guilty male partners are allowed to go scot-free. This unilaterality or one-sidedness of repressive, sanitary, and preventive measures is opposed to the principles of justice and equity, as it attacks only one factor in the spread of vice and disease. Society, by holding the female offender against morality alone guilty, propagates the false idea that there is a different standard of morality for men and women. These measures have all failed because they deal only with effects, while the causes remain untouched.

CAUSES OF PROSTITUTION.

To trace the root of the evil we must search deeper into that complexity of social and economic conditions of which prostitution is the product. The prostitute is but the purveyor of the infection. She simply returns to her male partner, the prostituant, as he is termed, the infection she has received from another prostituant. In the ultimate analysis it will be found that the male factor is the chief malefactor. The most essential cause, the *causa causans*, of prostitution is masculine unchastity—the polygamous proclivities and practice of the male, which lead him to seek the gratification of his sexual instinct whenever and wherever he can find a receptive partner.

Among the auxiliary causes will be found the economic dependence of women, certain adverse conditions of social life, and especially that double standard of morality for men and women established by society. Undoubtedly the chief contributory cause is that false social code of morals which is diametrically opposed to the moral code taught by Christianity, which readily condones in the man what it unsparingly condemns in the woman, which extenuates or accepts as excusable in the one what it decrees to be unpardonable in the other.

It is by no means intended to assert that all men are bad and all women good. Nothing could be more false than such a statement. Doubtless there are some women who are congenital perverts, or who belong to that degenerate class who are fated to prostitution through their inherited tendencies to vice. There are women who are impelled by circumstances or forced by hard economic conditions to

enter this life, but in the vast majority of cases the prostitute *fit, non nascitur*. The woman owes her fall to the aggressive solicitations or seductions of the man. She may even be a quasi-willing victim, but she yields rather from sentimental feeling than from sexual inclination; after the first step the descent to a life of shame is easy and almost inevitable. The woman in most instances becomes a prostitute not from deliberate choice or from inherited tendencies, but because her ruin has been accomplished by seduction, fraud, or force; she remains a prostitute because men pay her to do so; she sells her body because society does not permit her other means of livelihood. The man who is in the first instance responsible for her fall is chiefly responsible for the consequences that fall entails.

The influence of this false code of morality is reflected in the conventional standards of society which freely opens its doors to the chartered libertine and bars and bolts them against his victim. Women are the most pitiless and unrelenting in their ostracism of those of their sex who have crossed the Rubicon of virtue. The virtuous matron who would shield her daughter from all contact with a fallen sister as contaminating, with most indulgent charity smiles upon the very man who may have been the author of her ruin; she may, indeed, receive him as a suitor for her daughter if he is otherwise eligible.

The father of a family may welcome to the society of his wife and daughters men whom he knows to lead dissipated lives and frequent the company of immoral women. He may even pay a bonus, in the shape of a large dowry, to secure for his daughter a titled husband who has spent his substance in riotous living. The father may pay the

debts the man has incurred in keeping a mistress; too often the daughter is compelled to share in the discharge of the debt he has contracted to disease.

As a result of this double standard of morality, society practically separates its women into two classes: from the one it demands chastity, the other is set apart for the gratification of the sexual caprices of its men. It thus proclaims the doctrine, immoral as it is unhygienic, that debauchery is a necessity for its men. The great gulf fixed between virtuous and immoral women is bridged over by social convention which permits men to pass and repass freely. The ranks of the outcast are constantly recruited by new accessions from the community of the virtuous, which the men carry with them. To the woman there is no return, but the man may emerge from the mire of dissipation without a spot of social shame upon his character; he may return from the haunts of vice and mingle freely with the virtuous women of his social set.

Many men find the company of the outcasts so seductive and satisfying that they do not care to marry a virtuous woman, or they defer this step until late in life when, satiated with illicit pleasures, they expect to settle down into what has been termed "that even and well-ordered existence which succeeds to the fantasies of a bachelor life." But, practically, it seldom happens that a man is profligate in his youth without consequences. Irrespective of the effect upon his character, immorality breeds disease, and thus carries its own punishment with it. Unfortunately the punishment for the fault is not confined to the chief actor in it. The debt contracted to disease by a man in his bachelor days often has to be paid in his married life. Into

the vicious circle created by vice, innocent wives and children are drawn, and must share the punishment.

Venereal disease, declares a distinguished authority, is "*le cadeau de nocces que les courtisanes déposaient dans le corbeilles des jeunes épousées.*" It is with this fatal gift that the courtesan repays her virtuous sister for the scorn and contempt which are heaped upon her, and by a strange irony of fate the husband is made the bearer of this venom, and administers it to his family. The virus of this disease is not simply a poison, it is an infection which is susceptible of being reproduced and propagated almost indefinitely. Its effects, beginning with infection of the wife, are like a pestilential wave which sweeps over her whole existence, leaving in its wake the wreckage of hopes, of health, abortions, or diseased children.

For these social crimes and their pitiable consequences masculine unchastity and that false social code which fosters and promotes it are largely responsible. For the correction of this evil, society has at least one powerful weapon—social ostracism of the libertine. Social laws, which, though unwritten, are more rigorously enforced than any laws upon the statute books, should not freely absolve the male offender against morality while condemning to social infamy the female offender. The standard of social morality should be elevated. Drunkenness has been banished from polite society as an offence against good manners as well as morals. The man reeking with immorality should no longer with "unabashed forehead" enter the sacred circle of virtuous women and consider himself not unworthy to ask the hand of a pure young girl in marriage.

The most optimistic father would hardly consent to his daughter undertaking to reclaim a drunkard, yet he cheerfully acquiesces in her mission of reforming a rake. There is nothing more untrue than the old adage that a reformed profligate makes a good husband. Irrespective of the influence of licentious habits upon his character, they have for their almost invariable concomitant the diseases peculiar to profligacy.

So long as men may, without scruple, without violation of social laws, with what one might almost term the tacit encouragement of society, freely consort with immoral women without incurring any sort of social stigma, so long will they continue to infect the innocent women they marry with diseases which soil them, which poison them, and which kill them.

CHAPTER XXXV.

EDUCATIONAL MEASURES

THE stupid indifference of society to the dangers which menace the public health from the plague of venereal diseases, and especially the dangers which result from the introduction of these diseases into marriage, is largely the result of ignorance—ignorance of their frightful consequences, their nature and modes of communication, and the number of their innocent victims.

What are the remedies which are immediate and available and which promise to be efficient in correcting the causes of these evils and diminishing to some extent at least their effects.

It has been long recognized by physicians, who are the only competent authorities in this matter, that a large proportion of venereal infections, especially among the young, occur from ignorance of the dangers of irregular sexual commerce. It is also recognized that a general diffusion of knowledge among the public, and especially the young, as to the dangers, individual and social, the modes of communication of venereal diseases, direct and indirect, constitutes the most efficient means of prophylaxis. Another measure of prophylaxis is the prompt sterilization of sources of contagion by efficient treatment, thus preventing the infection of others.

In the application of these measures the most serious obstacle encountered inheres in the very nature of the diseases themselves. Largely on account of the shameful character of venereal diseases in popular estimation, the general public has not been educated into a knowledge of their dangers, their modes of contagion, and the duration of their contagious activity. As a result of this popular prejudice, the channels of communication which serve as the means of education and enlightenment of the masses are effectively closed.

There is what may be termed "a conspiracy of silence" on the part of the public press, the clergy, and public educators in relation to these diseases. It would be considered an offence against good taste to even mention the name of a venereal disease in the public press. Even the least scrupulous of newspapers which does not hesitate to lay bare the disgusting details of domestic intrigues and social shames, a knowledge of which subserves no useful purpose, but only panders to the prurient and depraved taste of its readers, most rigorously excludes all mention of venereal disease. To a certain degree such reticence is commendable and in the interests of good taste and good manners. It is not contended that these diseases should form the subject of discussion in the daily newspaper or of conversation in the family and society. The fastidiousness of the public press is cited only as an illustration of that popular prejudice which renders these diseases a forbidden topic. The inconsistency of it all is that the public press does not hesitate to speak of prostitution, of adultery, of intrigues which convey to their readers a distinct conception of an immoral act, but they shrink from mentioning

a common pathological consequence of that act as something unspeakably shameful. This discrimination cannot be defended on the ground of "high moral tone"; prostitution is not tabooed, although it is always immoral, while its diseases affect thousands of virtuous members of society who are in no wise responsible for contracting them. It cannot be affirmed that the most virtuous woman in the world will pass through life without contracting syphilis.

The attitude of parents and public educators is in the same line of silence and secrecy. A knowledge of the hygiene of the reproductive function and of the diseases which menace it from its irregular exercise forms no part of the education of the young. As a result, the young man goes out into the world the subject of nascent sexual impulses, of which he has been taught nothing, without a word of admonition as to the necessity of self-control, or warning as to the dangers of the irregular exercise of his sexual functions. He finds women who are at his disposition for the gratification of his desires. The first lesson he learns is that social conventions place no restriction upon the free exercise of his virile endowments, and stimulated by that most potent of all influences, the example of his fellows, he does not hesitate to plunge into the enticing pool of dissipation without dreaming of the dangers which lurk in its foul depths.

Another cause of the indifference of society is the survival of the old conception of the moral etiology of disease. At the present day venereal diseases are the only ones that have this moral, or rather immoral, aspect. Many excellent people still look upon venereal diseases as a merited punish-

ment—a divine chastisement for the sin of unchastity. In the popular conception venereal diseases are diseases of debauchery—confined to an obnoxious class or their consorts—which carry with them the stamp of licentious living. They are without the pale of public sympathy and public protection, because they are considered the result of immoral relations which are voluntarily entered into.

The public does not know that these diseases are often conveyed in the sacredness and what should be the safeguard of the marriage relation; that they embrace among their victims a vast number of virtuous wives and innocent children; that the chief sufferers are by no means the greatest offenders against morality. Venereal disease falls upon the just and unjust alike; it shows no distinction between the guilty and the innocent. We cannot impute to divine agency a disease which, like syphilis, ruthlessly smites the innocent wife and her offspring; we cannot consider a disease like gonorrhœa a merited punishment when conveyed under relations that society has sanctioned as lawful, honorable, and virtuous—a disease which ruins her health, extinguishes her conceptional capacity, and condemns her to a life of invalidism or to mutilation at the hands of the surgeon to save her life.

The public does not appreciate the fact that the immense majority of the victims of venereal disease are the young, the inexperienced, and the irresponsible through ignorance. While it may be said that society is under no obligation to protect those who voluntarily expose themselves to contagion, can the young who have been brought up in entire ignorance of such matters be said to voluntarily expose themselves to dangers which they may not even

know exist? Is not society to blame for this faulty training, or, rather, absolute lack of training, which exposes them to these dangers?

The attitude of society is not merely one of apathy or indifference, but it sedulously endeavors to cover up and conceal the existence even of these diseases. Society frowns on all efforts for its enlightenment; it resolutely shuts its eyes to the dangers that threaten the social body from the venereal plague.

The attitude of the medical profession, which draws around these diseases the sacred circle of the medical secret, tends to keep the public ignorant of their prevalence and dangers. We have seen that this secret is more binding than any human law. It relaxes none of its rigor, even when confronted with the alternative of a crime about to be committed—when, for example, a syphilitic man is about to marry with the practical certainty that he will infect an innocent woman and her offspring.

This same reticence and concealment are not only observed in private practice, but dominate the attitude of the governing boards of our general hospitals. If the venereal patient is admitted to a hospital his disease is baptized under a different name. The nomenclature adopted by our hospitals is calculated to conceal the extent of venereal morbidity. The systemic manifestations and sequelæ of these diseases under which they are entered on the records of the hospital lend themselves to this policy of concealment. Venereal diseases masquerade under various aliases. To the blind Isaac, the public, the hands are the hands of Esau, but the physician plainly discerns under these disguises the identity of Jacob. He can form an approximative estimate

of the extent of venereal morbidity and its relation to general morbidity only by reading between the lines.

Fournier, from his personal investigations in the general hospitals of Paris, found that from 15 to 19 per cent. of all cases were of venereal origin. The author's own investigations show that more than 10 per cent. of all cases treated in the general hospitals and dispensaries in this city are of venereal origin. Dr. Lane, of London, surgeon to St. Mary's Hospital and London Lock Hospital, declares "that in every general hospital a great proportion—more than 33 per cent.—of the cases seen in the out-patients' department is of disease of this nature."

This policy of concealment follows the patient with venereal disease to the grave. If we examine into the vital statistics of this or other cities we find few deaths attributed to gonorrhœa or syphilis. The cause of death is concealed under some non-compromising title.

Reference has already been made to the fact that venereal diseases in this country are entirely without the pale of sanitary control. They are not only exempt from all sanitary control, but their existence is officially ignored. The moral effect of this neglect and indifference is not lost upon the public, which is apt to base its appreciation of the significance and dangers of infectious disease upon the attitude of the sanitary authorities. If these guardians of the public health not only fail to employ prophylactic measures for their control, but absolutely ignore their existence even, the public naturally looks upon this peril to the health of the community as a negligible quantity.

Evil conditions, like many crimes, flourish best in the dark. In this atmosphere of ignorance, in disguise and

darkness, wearing the protective mantle of secrecy and shame and silence, with absolute exemption from all sanitary recognition or control, these diseases infect unseen and unnoticed.

In view of the dangers which menace the public health and the interests of the family and society from venereal diseases, it is time to break down these barriers of concealment and silence, behind which these diseases propagate and flourish, to dissipate the dense ignorance of the public by turning on the purifying light of knowledge, to do away with the mystery and secrecy which have always surrounded them, and to put aside that ridiculous prudery which regards all knowledge of sexual matters as profane.

Young men should be educated in a knowledge of sexual hygiene; they should be instructed as to the dangers incident to the irregular exercise of the reproductive function; they should be warned of the pitfalls and dangers which beset the pathway of dissipation; they should be instructed in the knowledge that venereal diseases are the almost invariable concomitant of licentious living.

The candidates for marriage should know the terrible consequences to which they expose their wives and children when they marry with an uncured venereal disease, so that the plea which the guilty agent of contagion so often offers in extenuation, "I did not know," "I thought I was cured," "I did not dream there was any danger of infecting her," shall no longer be heard. As Cushing says, "The plea of ignorance should no longer be available to shield those who bring disease and death in their families, who ruin the lives of those they have sworn to cherish and protect."

The fathers of marriageable daughters should know that

dissolute men often make dangerous husbands; that the man who has been licentious in his habits before marriage is more likely to bring ruin than happiness to his daughter, and that the habits and sexual health of his prospective son-in-law are quite as important to consider as his financial and social position.

Mothers should know that a man who has led an unclean life is not a safe husband for her daughter; that venereal infection, which is a common consequence of such a life, is a prolific cause of feminine infirmities and inflammatory diseases peculiar to woman, which may result in dangerous disease and ultimate loss of her reproductive organs.

While it is not contended that the exposure of existing evils should form a necessary part of the education of young women, yet they should know something of matters which so closely touch their health, domestic happiness, and the future of their children. Ignorance is neither the best preservative of the innocence of a young woman nor the best aid in the choice of the man whom she receives as her husband and the potential father of her children. She should know that dissipated men do not make desirable husbands.

This enlightenment should extend to the masses. The public should recognize what the medical profession has long known—that venereal diseases are a social pest or plague which menaces not only the public health but the welfare of the family and of the race. Their perceptions should be quickened as to the extent and significance of this danger, so that a healthy public opinion shall be formed which will sanction all proper measures toward their pro-

phylaxis by correcting the social conditions from which they spring and, if need be, sanction legal punishment for their transmission. With this enlightenment there should come an entire reconstruction of the social code which recognizes no incongruity between licentious living in men and social standing or respectability.

HYGIENIC EDUCATION.

This enlightenment should be chiefly directed to the young. In the writer's opinion the most efficacious means of checking the causes of the social evil lie in the moral and hygienic education of the rising generation.

We may now inquire what should be the character and scope of this instruction, and by what methods and through what agencies should this instruction be given?

In the first place, if this instruction is to be effective against the dangers of contagion, it should be timely. It should be given before the danger of exposure is likely to take place. As previously stated, venereal disease falls most heavily upon the young. The age of infection of young girls who become prostitutes, according to Pileur, is from sixteen to eighteen years. The vast majority of them are infected in the state of civil minority. According to Fournier's statistics, 12 per cent. of infections in men occur before the nineteenth year, that is, the age in which they are still pursuing their scholastic studies. More than 70 per cent. occur from the twentieth to the twenty-fifth year, that is, before the age of maturity and reflection. There is no reason to believe that the precocity of vice is more marked in France than in other countries. Numerous

statistics might be quoted indicating the precociousness of juvenile vice in this city.

The age at which this instruction should be given should be that of adolescence or early manhood. This instruction should form an integral part of the education of young men in high schools and colleges, since it is at this epoch that the maximum chances of contagion are to be feared. It is neither necessary nor desirable that young men should be instructed fully in the anatomy and physiology of the sexual organs. The object is to give them simply and briefly a clear idea as to the hygiene of the sexual organs, the diseases to which they are liable, the habitual sources of these diseases, and the serious consequences to health that they may entail. They should be taught that sexual commerce with bad women has for its frequent, common result diseases which may be ruinous to the health.

The general character of these diseases, their modes of communication, direct and indirect, their effects, local and constitutional, and their ultimate result upon the health of the individual and upon the offspring should be described in plain and easily comprehended terms. With a view to correct the dangerous tradition so nearly universal that gonorrhœa is a trivial disease of no more significance than a cold in the head or a catarrh of any other mucous surface, especial emphasis should be laid upon the serious consequences that may result from this infection and its potentiality for harm after apparent cure.

They should be taught that the dangers attendant upon irregular sexual commerce arise from the fact that practically all who follow this occupation are diseased; further, that clandestine prostitutes, the younger, the more attractive

of the loose women they encounter in the streets, the wine-shops, theatres, and public halls, are the most dangerous. They should know that venereal disease is not always the result of a life of debauchery or of a long series of exposures, but that it may come from a single exposure—it may be the first.

This instruction should include as a cardinal feature a correction of the false impression instilled in the minds of young men that sexual indulgence is essential to health and that chastity is incompatible with full vigor. It is too often charged that this opinion is based upon the authority of professional men. On the contrary, the opinion of medical men entitled to respect is that continency in youth conduces to strength of mind and body, and that illicit indulgence is not a safe substitute for marriage. They should be taught that the sexual passion is to be restrained and controlled and directed into monogamous practice.

This instruction would be incomplete without a warning as to the influence of alcohol in the instigation of immoral relations and as one of the most powerful auxiliaries of sexual contamination. The rôle of alcohol in the propagation of venereal disease has not been sufficiently appreciated, and the consideration that every repressive measure against alcohol will be an important prophylactic measure against the spread of venereal disease has not received the attention it deserves. A large number of men who have come under my observation have ascribed their contamination to exposure while under the influence of alcohol. "I drank too much and lost my head," is a common explanation. A large proportion of men and a still larger proportion of women owe their initial debauch to the influence of

alcohol. Perhaps more than any other agency, alcohol relaxes the morals while it stimulates the sexual impulse.

Langstein's statistics of 169 cases of venereal infection, comprising for the main part statistics of military men of different grades, are as follows: 18 were drunk at the time of sexual commerce; 55 were intoxicated; 85 had drunk but moderately; 1 was a chronic alcoholic; 48.3 per cent. were under the influence of alcohol. M. Forel's investigations show that 76.4 per cent. of venereal contaminations were effected under the influence of alcohol, and the greatest number of contaminations occurred in persons below twenty-five years of age.

This education should not be detached or isolated, but should always form a natural part of the course of elementary hygiene, embracing other subjects relating to the care of the health and the different modes by which other dangerous infectious diseases are spread. This instruction would have more weight and more persuasive force coming from a medical man, whose right to speak authoritatively on questions of hygiene cannot be questioned. The same information could be conveyed in the form of pamphlets or brochures or reprints of public lectures. Medical tracts are not to be recommended as a rule, as they are too often the resource of quacks. It would be better, for certain reasons, that such instruction should be conveyed through bulletins from committees representing medical societies than from individual members of the profession.

The education to be given to young men in schools and colleges requires time and organization for its effective working, but that enlightenment which is to be conveyed through the individual propagandism of the physician can take effect

without delay. The family physician is peculiarly fitted, not only by his professional knowledge, but through his close and personal relations with his patients, to impart this instruction. Every physician should be a missionary in his own field. While the duty of reforming the morals of the community is not within the province of the physician, individual reformation may be accomplished through his agency by instruction in matters relating to sexual hygiene and the diseases of sexual life; in his individual capacity he can impart this instruction to the young men of his clientèle, to the patients in his hospital, in his dispensary service, orally or by means of printed slips.

The intimate and confidential relations existing between the physician and his patient permit a large latitude in regard to all subjects relating to disease; the freedom with which his vocation permits him to talk on topics ordinarily forbidden allows him to discuss delicate matters regarded as peculiarly intimate, personal, and even shameful, without encroaching upon the reservations of propriety and good taste. He can speak with tact but with sufficient plainness to be understood upon all questions relating to sexual morality, sexual life and its diseases, without offending the susceptibilities of even the most modest woman; prudery of course cannot be considered in matters of this nature, and should be disregarded. This instruction should be addressed more especially to the young men of his clientèle.

Parents, instructors, public educators, and the clergy can each in his own way contribute to this work of instruction. It might be expected that the beginning of such instruction would naturally come from parental sources. It depends largely upon the father and upon the confidential relations

existing between him and his son. As a rule, parents pay little attention to the moral education of their sons or endeavor to protect them from contact with demoralizing influences. Daughters are carefully guarded, their associates chosen, and a certain supervision exercised with a view of preventing all contact with vice in any of its forms. Thousands of women fall because of the absence of such safeguards.

Chastity does not reside altogether in the organization of the woman, but largely in her environment and the social conditions that surround her.

Many young men complain bitterly that they have never been instructed, that they are thrown into the world in entire ignorance of sexual matters. A young man said to me: "If my father had given me ten minutes of sound advice and warning, I should have been saved years of sickness. As it was I knew nothing; it was a question of guessing. I kept on guessing until I found out by bitter experience."

What can be reasonably expected from this hygienic education? It will constitute a safeguard and a valuable safeguard against venereal exposure. Fournier says, "Many young men thus instructed will expose themselves, but they will expose themselves less often, less readily, less recklessly, less foolishly, and thus a great number of contaminations will be prevented."

The Utopian idea is not for a moment to be indulged that such education will reform humanity. The inculcation of caution cannot be relied upon as a corrective of incontinence. Experience teaches us that good counsels do not always constitute a great efficacy against the prompting of imperious instinct; the teachings of reason are often power-

less against the impulses of passion. Neisser states that in certain German cities young men continue to visit houses of prostitution with their pockets full of edifying literature. But because we cannot extirpate an evil there is no reason why we should not endeavor to limit and circumscribe it as much as possible. By a parity of reasoning, it might be contended that because we cannot destroy the causes of infectious diseases we should cease our efforts to combat their spread.

MORAL EDUCATION.

This hygienic education should be reinforced by moral education. There is no question that moral means are of the highest order, as they strike at the root of the evil. It is but a truism to state that the most valuable and only radical means of prophylaxis of venereal disease is the correction of the immorality which is the cause of these diseases.

It is the province of the clergy and public teachers to educate the public conscience and to inform public sentiment in all matters relating to morals. All moral teachings which inculcate self-control, personal purity, reverence for women, and respect for the dignity and sacredness of marriage are conducive to the object in view. It may be a question, however, whether the education of the morals of young men, with special reference to the promotion of masculine chastity and their preservation from the peculiar dangers which beset their pathway in life, has received adequate attention from religious teachers. Such instruction cannot be well conveyed without reference to the character and nature of these dangers and their habitual source.

With few notable exceptions, the clergy may be justly criticised for their indisposition to touch upon the social evil. With a fastidiousness which is not derived from the teaching or example of the founder of Christianity, they shrink from all contact with this social leprosy. "This foul ulcer in the side of society" is a mysterious horror of nastiness which they do not attempt to bind up and cure, but pass by on the other side. Sexual sins, lusts of the flesh, fornication, etc., appear to have been singled out for special condemnation by the apostolic teachers, but at the present day how seldom do the clergy, in the pulpit, in public gatherings, or in private exhortation, inveigh against the vice of immorality or openly condemn that conventional code which is based upon the false principle that sex qualifies sexual sin.

Again, the clergy are too prone to accept the archaic theory of the moral etiology of venereal diseases. They look upon them as the merited punishment for the sin of immorality. This view, pushed to its legitimate conclusion, would disfavor the treatment of cases of venereal diseases in hospitals and public institutions as calculated to defeat the merited punishment. "Let them rot in their vices" is a too common expression. Without reference to the inhumanity of this maxim, it is not to be forgotten that disease contracted in immoral relations often poisons legitimate unions, and the punishment falls most heavily upon the innocent.

There has always been until recently an irreconcilable conflict between the moralists and the hygienists. The former look upon vice as far more disastrous to society and the individual than its resulting physical maladies;

that it is a moral evil that should be combated by moral means alone. The hygienists look upon the effects of vice, the diseases that it engenders, their menace to the public health, their morbid irradiation into the family and social life, and their pernicious effects upon the descendants and the race as the greater evil.

What has been termed the fundamental opposition between moral and sanitary control should no longer exist. It is not a question as to which is the greater evil, vice or its diseases, nor which should be the exclusively appropriate remedy. The medical man and the moralist are both interested in the correction of the social evil; instead of working independently and often antagonistically, there should be co-operation and concert of action. Many medical men are disposed to consider the social evil solely in the light of a sanitary problem and treat it as such, entirely ignoring the moral questions involved, on the ground that hygiene has nothing to do with the regulation of morals; its object is to preserve health. But it may be said that the office of public hygiene is not simply to limit the diseases which affect populations; its highest function is to develop all those conditions which conduce to public health, and which in its highest expression is inseparable from public morality.

Licentious living is not merely an injury to the moral character; it is an injury to the body as well, involving as it does the exercise of a physiological function under conditions which are almost inseparable from the contraction of disease. The hygiene of the sexual functions comes within the province of the physician as much as the hygiene of the stomach, of the nervous system, or of any

other organ of the body. Moral education should, then, in all cases be supplemented by hygienic education, and so far as immediate results are concerned, the latter is likely to prove more effective than the former. The moralist may say to the young man, "Keep the temple of your body pure; flee fornication, because the divine law forbids it." The hygienist says, "Consort not with public women, because such commerce is not safe or wholesome for you, because venereal disease is the almost invariable consequence of such indulgence, and this disease may compromise or destroy your health or life." Practically it will be found that an appeal based upon the ground of the care and up-building of the physical health often proves of more avail than express prohibition. Unfortunately, human nature is so constituted that from the days of Adam until now the mandate "Thou shalt not" has often proved the strongest incentive to disobedience.

Practical, clear-headed men, popular educators, the heads of universities, have begun to recognize the interdependence of moral and hygienic training.

At a recent meeting in Boston of the presidents of various prominent universities the education of the morals of young men was the principal subject for discussion. The opinion was generally expressed that the present system of university training was not adapted to turn out good and useful citizens; that the mere training of the intellect is insufficient to develop the material which the best members of society are made. In an address notable among many others, Bishop Gaylord called attention to what he termed "the amazing and unparalleled existence of vice as observed by teachers and instructors among the young men whose

education was entrusted to their care." He insisted "that a college or university is not merely a depository of learning but a training place for the highest citizenship, for complete manhood, and that training necessarily includes morals." It was generally recognized that a part, and a most essential part, of this education of the morals of young men should be hygienic and should be made an integral part of the system of college training. The opinion was also generally expressed that this hygienic training could be most effectively administered by a medical visitor attached to each school of learning.

Whatever may be said of the practical unwisdom of attempting to mix morals and medicine, it cannot be denied that in the causation of sexual vice two factors, one a physical the other an immoral impulse, are intimately involved. The act is prompted by a physiological impulse and takes place under conditions which are qualified as immoral, and has almost invariably as a pathological concomitant or accessory, disease. It is distinctly within the province of hygiene to teach control of the sexual function and warn against its exercise under conditions which cause disease. It is no less the province of the moralist to condemn a vice which has a demoralizing effect upon the individual and upon society.

Reverting now to the more special object of this study, will this hygienic and moral training be sufficient to prevent the evils we have been considering—the introduction of venereal disease into marriage? The experience of physicians who have had much to do with this class of cases shows that there are many conscienceless men who carry out their matrimonial projects after they have been fully

enlightened as to the risks they convey to their wives and despite the protests of the physician. A belief in the perfectibility of the human race under the sole influence of enlightenment without coercive measures or legal restrictions bearing upon individual liberty is delusive. Thousands of men have married and infected their wives and children, and men will continue to do so unless restrained by a stronger influence than the persuasive force of enlightenment or an appeal to their moral sensibilities.

CHAPTER XXXVI.

ADMINISTRATIVE MEASURES.

THE State, through its coercive force, can suppress the open and revolting manifestations of vice. It can repress many of the affluents of vice. It can establish more stringent laws for safeguarding minors by raising the age of legal consent. It can, by contributing to the better housing of the poor, by preventing promiscuity of occupation of young men and young women in factories and workshops, and by establishing reformatories and homes for the rescue and restoration to honorable life of fallen women, accomplish a vast deal toward correcting the conditions which lead to prostitution. But the law has its limitations. Much of the prostitution is scattered and private and cannot be reached. The State cannot legislate morals into a community or a nation. The police force cannot make men moral nor women good.

So far as the spread of venereal diseases is concerned, the State can render most effective aid by repressing or rather suppressing charlatanism, which scatters broadcast its deceptive literature claiming that a disease which is essentially chronic can be cured with half a dozen bottles of "blood purifier" or a few injections of a supposititious serum. It not only holds out delusive promises of cure, but, by giving a sense of false security when the disease

is still dangerously contagious, it thus contributes to the spread of the disease.

Can the public powers more effectively intervene for the protection of the marriage relation from the desecration of venereal disease by direct specific legislation? The State imposes as a condition of its license to marry certain regulations relating to the age and degree of consanguinity of the contracting parties. The State may demand as a preliminary condition to granting a license a medical certificate that both parties are free from any contagious sexual disease. It may impose a civil and penal responsibility for the transmission of venereal disease in marriage.

MEDICAL CERTIFICATE.

This measure has been urged by many sociologists as well as physicians as the only feasible method of the prophylaxis of venereal diseases in marriage. Reference has already been given (page 64) to the efforts which have been made to engraft such a law upon the constitutions of various Western States. The difficulties which would arise in the administration of such a law may now be examined more at length.

Such certificates could be issued only by official physicians or boards of examiners appointed for that purpose. These official representatives should not only be competent and impartial, but their services should be available whenever required. In a State covering a large territory and embracing many counties it would be necessary to have a large number of such officials, certainly one to each county seat. It would be difficult or impossible to find com-

petent physicians, conveniently distributed, to act in such capacity.

The purpose of such a law would be defeated by the practical difficulties encountered in certain cases in determining the presence or absence of contagious elements. The existence of gonorrhœa, for example, might be detected at the first examination, but in a case of chronic or latent gonorrhœa it would require numerous examinations and prolonged observation to authorize the issuing of a certificate that the infectious elements had definitely disappeared.

Syphilis might readily be detected in the primary or early secondary stage, but syphilis is not a disease of continuous symptoms. In the intervals between the outbreaks, when it has undergone one of its customary eclipses, there may be no unequivocal evidence of the disease present, and, since the earlier lesions are essentially resolute, leaving no stigmata or trace of their existence, it may happen that a syphilitic may be examined during the second year, or even the latter half of the first year, and no positive, unmistakable evidence of the disease be found.

In ordinary practice the physician may base his diagnosis upon the history of antecedent lesions furnished by the patient, all of which may have disappeared at the time of examination. It is altogether probable that a patient with syphilis, wishing to marry, would select such a period of exemption from all visible signs of the disease for the examination, and further, that he would withhold all testimony as to antecedent symptoms which would incriminate him as the bearer of disease.

The possibility of substitution could not be guarded

against. A man with active syphilis who is so unprincipled as to wish to marry would have no hesitancy in paying or otherwise persuading a healthy man to take his place and thus obtain a certificate by fraud. As Jullien somewhat cynically remarks, "It is always dangerous to place the honesty of a man against his interests."

Then, again, such a law, in order to be effective in its operation, should be uniform in all the States of this country—a consummation hardly to be hoped for; otherwise, a person knowing himself to be affected with venereal disease would arrange, upon some pretext or another, to cross over the borders to another State in which no such restrictive conditions are applied to marriage.

Finally, the practical effect of this law, assuming even that it were adopted in all the States, would be to promote celibacy by rendering marriage more difficult even to those who are entirely free from all disqualifying risk in the way of disease. Many proud, sensitive men, many refined, modest women would forego marriage altogether rather than accept it under conditions which the former would regard as humiliating to their pride, and the latter an outrage upon their modesty.

Marriage, and especially early marriage, is the surest preservative against immorality and its diseases. It is generally recognized that the greatest social danger of the present day proceeds from the growing unpopularity and consequent fewness of marriages. Material and other social conditions are such as to discourage early and fruitful marriages. The tendency is to defer marriage until a later period in life, when the productive energy of the couple is lessened. Every obstacle thrown in the way of marriage

is distinctly antisocial and to a certain degree immoral in its tendency.

As it now stands, any parent may demand of the aspirant to the hand of his daughter a certificate of exemption from any contagious sexual disorder as a condition of his consent to the marriage. If the man should refuse to furnish such a certificate it might be fairly considered presumptive of his inability to produce it.

PENALIZING THE TRANSMISSION OF VENEREAL DISEASE.

At the present day there is no measure connected with the prophylaxis of venereal disease of livelier interest than the question whether the principles of civil and penal responsibility should be applied in the matter of the transmission of these diseases. It may be asked whether such a law is equitable, whether it is politic, whether feasible; what would be its scope, and what would be its practical results?

IS SUCH A LAW EQUITABLE?

In all criminal codes a penalty is attached to injury to the corporeal integrity of one individual by another, the nature and degree of the penalty being determined by the damage to the health or life of the individual; the motive of intent to injure, or simply voluntary imprudence, is also taken into consideration. The question is whether an individual who knowing himself to be affected with venereal disease transmits it to another should be held legally responsible for the damage imputable to his fault.

Berenger lays it down as a general principle of juris-

prudence: "In order that an act should come under the weight of the penal law, it must reunite the triple conditions of attacking morality, be susceptible of entailing prejudice (damage), and be done intentionally. Is there," he says, "in fact, an act more immoral than to expose a human being to the consequences, always grave, sometimes terrible, often tragic, of a disease which spares no one, which may attack not only his health and his life, but those of his descendants, and expose him to spread it, even unconsciously, around him? Is not its gravity sufficiently known to all that the most ignorant cannot misapprehend the danger of the infection he carries with him? How contest the culpable intention of the agent when he has been enlightened as to his state by positive symptoms?"

These principles of justice relate to the transmission of syphilis in general. When it comes to their application to the introduction of venereal diseases in marriage their weight becomes accentuated. Does not the transmission of syphilis to the innocent wife by the immoral husband constitute a greater damage to her physical health and the children who are a part of her being, to say nothing of the humiliation and injury to her personal feelings she is compelled to undergo, than the thrust of a dagger! Is not the communication of gonorrhœa to the wife under the same conditions a greater danger to her health, her conceptional capacity, her life, than assault and battery or any ordinary injury to her corporeal integrity? There would seem to be no question of the equitable basis of such a law.

IS SUCH A LAW FEASIBLE?

Would it be sustained by public sentiment? It goes without saying that no law can be stronger than the public sentiment behind it. A law may be placed upon the statute books, but it cannot be enforced without the consent and co-operation of the public.

In New Jersey, Massachusetts, and other States there has long existed a law punishing fornication by fine or imprisonment, but it is a dead letter because it is not sustained by public sentiment. In prohibiting a relation between the sexes which, although immoral, has always been considered peculiarly personal, it intrudes upon the domain of private rights and individual liberty. The proposed law does not prohibit prostitution; it does not punish a man for contracting disease; it is based upon the broad principle that no human being is justified in communicating his disease to another, whether intentionally or by criminal imprudence, especially in the relation of marriage, where the victims are powerless to protect themselves.

In the crusade against tuberculosis undertaken by the sanitary authorities in this city it has been found that enlightenment of the public in regard to its dangers and most common modes of communication is not alone sufficient. It was found necessary to impose a legal responsibility to suppress what is regarded as one of the prolific means of its spread. If public sentiment upholds the Board of Health in imposing a heavy fine for spitting on the floors of public conveyances, with the remote possibility of the sputum containing tuberculous germs, and with the still more remote possibility of its proving a source of

infection to others, surely it would sustain a law penalizing the transmission of a serious disease fraught with such terrible consequences to the health and life of the family.

The law has so far curtailed the vested privileges of an individual in his own life that it punishes as a crime any suicidal attempt. Would the proposed law be considered an unwarrantable restraint of that individual liberty which now permits a man to poison his wife and kill the children who owe their life to him? Should not the medical profession unite in the effort to secure a legislative enactment which will impose a civil and penal responsibility upon such an action, whether it be the result of culpable ignorance or criminal imprudence?

IS SUCH A LAW POLITIC?

At first sight it might appear that such a policy was unwise and imprudent upon the general principle that legal punishment does not constitute a proper part of the system of prophylactic measures to be employed in the prevention of contagious diseases. Why institute a legal responsibility for the transmission of syphilis and not for smallpox, scarlet fever, or other infectious disease which may be communicated from man to wife?

To this it may be observed that the cases are by no means parallel. Infectious diseases in general are communicated unconsciously; their contagion is always unconscious and involuntary; infection is inevitable under favoring conditions of exposure. On the contrary, the communication of venereal disease, exception being made of cases of accidental inoculation, is always avoidable; it is effected by the volun-

tary act of individuals, and its communication is therefore to a certain degree wilful.

Further, legal responsibility as an element of sanitary prophylaxis would be by no means an innovation. Physicians are compelled under penalty of the law to violate the medical secret by reporting cases of contagious disease and by testifying in the courts of law when the interests of justice are concerned. Further, as previously pointed out, the parents of a syphilitic child are subject to civil responsibility and the payment of damages if the nurse to whom the child has been committed becomes infected. Why should not the law hold the husband responsible when he infects his wife with the same disease?

Again, it has been urged that it is not the province of the physician to recommend punishment for disease. The function of the physician is to cure disease and not to counsel the consignment of his patients to prison. To this it may be answered that it is not the contraction of the disease which is to be punished, but the transmission of it to an innocent person in a relation which it is to the interest of the State to safeguard from risk. It is to protect the innocent from sharing the punishment for the sin committed by the guilty.

WHAT SHOULD BE THE SCOPE OF THE LAW AND WHAT
WOULD BE ITS PRACTICAL RESULTS?

Obviously the theory of the necessity of such a law is based upon the infection of the innocent, of those who are in most cases as helpless as infants and as incapable of protecting themselves. It would not necessarily apply to

the communication of the disease in the sexual commerce known as prostitution—to those who make a living by selling their bodies or those who seek the gratification of their lusts in the companionship of lewd women.

There can be no question that in the interests of the general health such a law, which should be universal in its application, would be desirable in preventing the dissemination of venereal disease by narrowing the responsibility down to the question of individual accountability.

There are, however, certain practical objections to its general application; from the difficulty or impossibility of positively identifying the origin of infection in a disease of such prolonged incubation as syphilis, especially under conditions when promiscuous intercourse has been indulged in, the penalty could not be inflicted because of lack of proof. Moreover, it might lead to unjust charges, blackmail, etc. Then, again, it is a question whether a man or a woman who indulges in sexual debauch would be justified in demanding legal protection from the pathological consequences of that act, especially since the act is always voluntary. There would seem to be no necessity for the intervention of the law in the protection of those who are amply able to protect themselves.

The law would properly find its application not only in infections in marriage, but in cases where a man seduces a minor, who falls partly as a result of her environment and ignorant of the fact that the loss of her virtue carries with it the loss of her health. The law should protect her from the consequences of her ignorance and the vicious social conditions which surround her.

It may be contended that such a law, although equitable

and good in theory, would be inoperable because of the difficulties in furnishing proof of that rigorous and conclusive character demanded by the law. The proof, however, would be less difficult to secure than in the case of adultery and many other legal crimes. It would be necessary to show that the complainant has the disease, that the defendant has the disease, and that the disease of the former is that of the latter, and there must be a chronological concordance between the evolution of the disease in the complainant and the existence of certain contagious accidents in the defendant. The knowing and wilful communication of the disease could also be established. At the present day justices of courts rarely accept the theory that the man is under any delusion as to the existence of his disease or of the danger he may carry to others.

Another objection which has more weight is that since such an action must be instituted by the injured party, the fear of exposure and publicity would deter most women from prosecuting their husbands upon such a charge. If such a law were established it is not probable that it would be frequently invoked for the punishment of guilty husbands. The value of such a law would be chiefly educative. At the present time many men look upon the communication of venereal disease with no especial compunction. This is rather from ignorance of the pathological consequences entailed than from indifference or insensibility. Their appreciation of the significance of an action and its consequences is largely influenced by the attitude of the law toward such an action. If the law does not condemn it, does not punish it, they do not attach any criminality to it. If the law should decree the infection of the innocent with

venereal disease a crime punishable with fine and imprisonment, it not only would awaken their conscience to its significance, but their selfish perception of its danger. The mere existence of such a law upon our statute books would do much to educate the public to the idea that the transmission of syphilis is not a venial offence, but that it is a crime against society to recklessly scatter the seeds of a loathsome disease; that a man should be held responsible for the consequences of such an action, especially when the consequences injure those whom it is the special interest of the State to protect, and which threatens the integrity of an institution or status which the law holds must be preserved by surrounding it with every possible safeguard.

The advocacy of a law penalizing the transmission of venereal disease in marriage might appear to be inconsistent with the view expressed (page 326) that a woman should never plead syphilis communicated by her husband as a ground for divorce if infidelity or any other phase of "cruelty" could be alleged.

As the law now stands, the guilty partner who perpetrates this cruelty is not deterred by the fear of punishment. He knows that in the eyes of the law it does not constitute a crime and that he will not be punished. If it be laid down as a principle of jurisprudence that it is a criminal action punishable with imprisonment for a man to infect his wife with the poison he has received from a prostitute it will prevent many innocent contaminations.

Such a law would have its special value as a deterrent force. It would act as a menace rather than a punishment which would be frequently applied. If the physician, when confronted with a conscienceless individual who persists,

despite his remonstrances, to expose an innocent woman to dishonor and disease, and her children to death, could say to him, "Your proposed action is not only base; it is not only morally criminal, but it is legally criminal; it will expose you to disgrace and punishment," the menace of punishment, involving pecuniary damages and imprisonment will inspire a salutary effect. When all other arguments fail it will furnish the final argument now necessary to break the criminal obstinacy of men who wilfully adhere to their unscrupulous matrimonial plans despite the warnings of the physician.

Prosecution under such a law would not compromise in any way the obligations of the medical secret. The prosecution could only take place on the instigation of the aggrieved party. The medical proof necessary to substantiate her claim would be furnished by a medical expert appointed by the court to investigate and report upon the facts. Such prosecution could take place without the necessity of publicity.

PENAL LEGISLATION IN OTHER COUNTRIES.

In this connection it may be said that the tendency of modern legislation, especially in European countries, is not only to break down the barriers of secrecy which have always protected venereal diseases from compulsory notification, but to impose legal responsibility for their transmission.

A Norwegian law enacted in May, 1902, provides that "Anyone who, knowing or presuming the existence in himself of a contagious sexual malady, shall contaminate

or expose to contamination another person by sexual commerce or by debauch will be punished by imprisonment up to five years.

"If the person contaminated or exposed to contamination be connected by marriage to the culpable person, an action can be instituted only on the part of the injured party."

Another paragraph of the new law contains a penalty against

"Anyone who confides to a nurse a syphilitic child, or who, suffering from contagious syphilis, takes service in a household or undertakes or engages to bring up an infant."

The new Finland penal code decrees a penalty of forced labor and imprisonment up to two years for contamination by sexual relations. Provisions of the same nature are found in the Danish penal code, and in those of the Canton of Schaffhaus and of the Canton of Tessin (Morgenstein).

Both the German and the Austrian codes provide punishment up to one year or more, with or without payment of damages, for one who, knowing himself affected with a sexual malady, shall have sexual relations with another person.

This tendency to attach penal responsibility to the transmission of venereal disease seems to be gradually extending in Europe. At a recent meeting of the Société de Prophylaxie Sanitaire et Morale in Paris it was voted to recommend to the administrative powers the application of civil and penal responsibility for the transmission of syphilis and gonorrhœa.

CHAPTER XXXVII.

SANITARY MEASURES. CONCLUSIONS.

WHILE measures of sanitation are initiated by the medical profession and under its executive control, they require for their efficient operation the sanction and authority of the municipality or the State, and may be properly considered in connection with administrative means. It may now be inquired what measure of relief in checking the spread of venereal diseases can be afforded by the action of the health officials.

Reference has already been made to the policy of inaction which has always prevailed in this country, partly from the hostility of public opinion, but largely from the difficulty of coping with these diseases by any of the methods ordinarily employed in the control of infectious diseases and the baffling character of the sanitary problem.

While the Continental system has proven defective as a sanitary scheme, largely because of its unilaterality, it would be a sad commentary upon the value of sanitary science—whose watchword is the extermination of every contagious disease—that it should suffer a dishonorable defeat and make an unconditional surrender to a class of diseases which are essentially evitable.

The first requisite is to enlighten the public to the magnitude of the venereal peril, its menace to the public health,

its danger to the family, the descendants, and the race. Enlightened public sentiment should sanction the placing of these diseases on the same plane of sanitary control as that of other infectious diseases dangerous to the public health. The entering wedge of control should be the obligatory notification of these diseases—due regard being had to their shameful nature in popular estimation—not giving the name of the bearer, only the diagnosis and the *source of infection*, so that dangerous sources of contagion might be located and suppressed.

It is all important to have the amount of venereal morbidity placed upon the basis of official registration, in order to awaken the perceptions of the medical profession as well as the public to the enormous extent to which it prevails.

The author is not prepared to formulate a plan or system of sanitary control complete in all its details which shall be practicable, efficient, and immediately available. It is easy to criticise measures which have been proposed, but difficult to suggest others which are not open to criticism. Such a system should be organized on the same lines as those adopted in the warfare against tuberculosis now so actively waged.

It is a noteworthy fact that until the closing years of the nineteenth century this modern Samson of diseases, which slays not only its tens but its hundreds of thousands every year, was not subject to sanitary control or even recognition. As it was impracticable to isolate the great army of consumptives, it was thought impossible to control the spread of a disease the contagion of which was effected in the ordinary relations of family and social life. But tuber-

culosis is now recognized as a disease which is to be combated, which is evitable, and which may be cured. The efforts of sanitary control, although employed only for a brief period, have already borne fruit; the extension of the disease has been checked and its mortality materially diminished.

If the means employed for the control of tuberculosis were directed against the spread of venereal diseases—viz., enlightenment of the public as to their dangers, their modes of communication, the duration of their contagious activity—if enlarged facilities for treatment were provided, which should be adapted to the nature of the disease, non-restrictive, and available to all; if the ban of dishonor could be removed which now excludes these diseases from entrance into general hospitals during the period when they are acute and curable and when it is most important to promptly suppress contagious accidents by sterilizing treatment, there is no question but that there would result a marked diminution in venereal morbidity.

As before remarked, the shameful nature of these diseases in popular estimation constitutes the chief obstacle to the employment of these measures. "The shame of these diseases," says Bouchard, "is only for society, which does not know how to deliver itself from their plague, which allows itself to be decimated by them."

CONCLUSIONS.

In offering these observations upon "social prophylaxis" the author makes no pretension of having satisfactorily solved what has been termed "the unsolvable problem of

the social evil." So far as we can apprehend the causes of this evil, the chief determining cause is masculine unchastity, which has its basis in uncontrolled animal instinct, and which is directly encouraged by that double standard of morality for men and women established by social convention. The predisposing and auxiliary causes are certain adverse socio-economic conditions which, coupled with the aggressive solicitations of men, favor the fall of women and their entrance into a life of shame.

Society is insensible to the physical and moral evils which grow out of prostitution, because of ignorance of their extent and significance. This ignorance is fostered by the false attitude of society toward these diseases, largely because of their traditional shameful character. Popular prejudice frowns upon all attempts at sanitary control, forbids the education of the young in matters relating to sexual hygiene and the diffusion of knowledge respecting diseases which are most intimately mingled with the sources of human life.

We may now inquire what measure of relief may be reasonably expected from the application of the prophylactic means proposed.

It cannot be questioned that a reform in morals would constitute the most really valuable and efficient means of prophylaxis. But it would require an exaggerated optimism to believe that such a reform is likely to be realized in the immediate future. Influences which act as a regenerating force upon the morals of a people are proverbially slow in operation. Moral obligations which come in conflict with practices that have their basis in animal instinct and their sanction in atavistic belief and traditional usage do

not meet with ready acceptance. The transformation of the polygamous man into a monogamous animal must of necessity be a slow evolutionary process. Still, we believe that the education and training which aim to develop a higher morality in men will do much to check and diminish the evil.

Likewise, it may be said of administrative measures which have for their object the correction of adverse economic conditions which favor prostitution, that they do not promise immediate relief. Material circumstances which affect the methods and means of living, the condition of labor, the economic dependence of women, and especially the grinding poverty, the force of physical want which impels many of them along the road to ruin, cannot be immediately improved.

The State can effectively intervene in the protection of the wife, the mother, and the infant destined to continue the race by decreeing it a crime, punishable with severe penalties, the transmission of venereal disease in marriage. But it will require time for the education of the public to an appreciation of the significance of these diseases as a social danger which, in menacing the family, menaces the welfare of the race. Such education is essential to the formation of a public sentiment which shall sanction and sustain the enforcement of such a law.

Whatever may be said of the value of the remedies proposed, the fact is irrefutable that no moral reform, whether realizable or not; no legislative enactment, whether feasible or not; no repressive force, whether justifiable or not; no sanitary regulation, whether practicable or not, promises to be immediately available. It requires time for the opera-

tion of these slow-moving forces; in the meanwhile the forces of evil are continuously active. The laboratories of vice turn out every day and night new cases of infection which is introduced into the family and ramifies through every rank and order of society.

The true remedy, the most effective remedy available to modify or lessen the appalling evils, moral and physical, which flow from venereal diseases is the general dissemination of knowledge respecting the dangers and modes of contagion of these diseases. It is by the persuasive force of enlightenment, by combating the dense ignorance which prevails among the laity, especially among the young upon whom the incidence of these diseases most heavily falls, that these evils can be diminished. This remedy is not only immediately available, but, if it acts at all, it acts as an immediate protection. The education of to-day which would lead to an avoidance of exposure acts as a preservative to-night. This education can be conveyed by means of and through agencies already mentioned, and most effectively through the personal propagandism of physicians.

If a young man, in addition to his education in sexual hygiene, is also instructed into a knowledge of the fact that venereal disease is the almost invariable concomitant of licentious living; that such indulgence is not wholesome for him; that it carries with it consequences to himself and to others, often disastrous consequences, which may impair his health, vitiate his manhood, and lead to a forfeiture of all those hopes and aspirations which are to be fulfilled in a safe, fruitful, and happy marriage, he will pause and consider.

If the man will not heed this instruction; if he will con-

tinue, despite this warning, to give himself up to sexual debauch and contract disease, let him keep it to himself, let him not introduce it into marriage; let him not infuse the vile taint of the prostitute in the pure young woman who receives him as her husband and in the children who are a part of her being. Such a crime, which entails suffering and shame, disease, and death upon the innocent, should be no longer possible. All legislative, moral, and sanitary forces should unite in preventing the commission of such shameful cruelties.

Upon humanitarian principles, in the interest of virtuous wives, who should no longer be poisoned with foul infections; in the interest of children, who should no longer be deprived of their rightful heritage of vitality and vigor; in the interest of the race, which should no longer be decimated and deteriorated, the dreadful curse of venereal disease should be lifted from the marriage relation.



GLOSSARY

OF

MEDICAL TERMS USED IN THIS VOLUME.

- ABORTION.** The act of bringing forth young prematurely.
- ACCOUCHEMENT.** Confinement; delivery in childbed.
- ADENITIS.** Inflammation of the lymphatic glands usually accompanied by enlargement.
- ADENOPATHY.** Any morbid condition of the lymphatic glands, especially one resulting from venereal infection.
- ALGIA.** A suffix meaning pain, as neur-algia.
- ALOPECIA.** Baldness—a skin disease accompanied by loss of the hair and sometimes by shedding of the nails.
- ANÆMIA.** A condition characterized by a lack of red blood corpuscles. Deficiency in the formation of red blood corpuscles. Bloodless.
- ANKYLOSIS.** A knitting together of bones, as at a joint, causing stiffness or solidification.
- ANNEXIAL OR ADNEXIAL.** Relating to parts attached to an organ ; in gynecology to the tubes and ovaries connected with the uterus.
- ANTISEPTIC.** Anything that hinders or prevents the growth of putrefactive micro-organisms. Anti, against; and sepsis, infection.
- APYRETIC.** Without fever.
- ARTICULAR.** Pertaining to a joint.
- ASEPTIC.** Free from disease germs or tendency to putrefaction.
- ASPERMIA.** Without seed. In medicine the absence or non-emission of semen.
- ATROPHY.** A wasting or withering of an organ or part of the body.
- AURICULAR.** Pertaining to the ear or its external part. Relating to the sense of hearing.
- AUTOINFECTION.** Poisoning by a virus generated within the body.
- AZOÖSPERMIA.** Absence of or lack of vitality in the spermatozoa.

- BACTERIA.** Microbes. Schizomycetes or minute fission-fungi.
- BANAL.** Commonplace, trivial.
- BIOLOGICAL.** Pertaining to biology or the science of living organisms.
- BUBO.** An inflamed lymph gland in the groin, usually due to venereal infection.
- BUCCAL.** Pertaining to the mouth or cheek.
- BULBOUS.** Having the form of a bulb.
- CACHEXIA.** A marked or profound state of constitutional disorder.
- CATAclysmic.** Pertaining to a cataclysm or a sudden and overwhelming change.
- CENTRIFUGAL.** Directed or tending away from the centre.
- CEPHALALGIA.** Headache. Neuralgia located in the head.
- CERVIX.** The neck. Often applied to the lower part of the womb.
- CHANCER.** The primary syphilitic ulcer. The point of initial infection by syphilis.
- CHANCROID.** Like chancre. A venereal sore resembling chancre, but not followed by syphilitic infection of the system. "Soft chancre."
- CHORDITIS.** Inflammation of the spermatic cord.
- CILIA.** Eyelashes or lash-like processes.
- CIRRHOsis.** An abnormal increase in the connective tissue attended by wasting of the proper tissue of an organ.
- COCCUS.** A spherical or nearly spherical bacterium. A micro-organism.
- COITUS.** The act of sexual congress.
- CONDYLOMATA.** Wart-like growths usually situated about the anus and genital organs, and often of syphilitic origin. Venereal warts.
- CONDYLOMATOUS.** Pertaining to condylomata.
- CONGENITAL.** Born with one. Existing from birth.
- CONJUNCTIVITIS.** Inflammation of the conjunctiva or the mucous membrane lining the lids and covering the white part of the eyeball.
- CONTAGIOUS.** (See INFECTIOUS.) The quality of disease permitting its propagation through contact or close proximity. Transmissible by contact—catching.
- COPULATION.** The act of sexual relation.

CORNEA. The transparent or clear membrane on the front of the eyeball, corresponding in area with the colored part of the eye.

CORYZA. A cold in the head. An inflammation of the mucous membrane lining the nose and connecting cavities.

CRYPTS. Small secreting cavities in the skin or mucous membrane.

CURETTAGE. The operation of scraping with a small more or less sharp instrument resembling a spoon. This operation has been frequently applied to the uterus.

CUTANEOUS. Pertaining to the skin.

CYANOSIS. A livid, bluish color of the skin, indicating some interference with the normal circulation.

CYSTITIS. Inflammation of the bladder.

DEMENTIA. Unsoundness of mind to a degree of total loss or serious impairment of the faculty of coherent thought. Insanity.

DESQUAMATION. A shedding of the outer layer of the skin.

DIAGNOSIS. The art of distinguishing one disease from another.

DIATHESIS. A predisposition to certain forms of disease.

DIPLOCOCCUS. A form of bacterium occurring in united pairs.

DYSMENORRHOEA. Painful menstruation. More than ordinary discomfort or pain attending the monthly flow of women.

DYSTROPHY. Defective nutrition. A term often applied to conditions attending local paralysis.

ECTHYMATOUS. Relating to or resembling ecthyma; a pustular eruption often followed by pigmentation.

EMBRYO. The fœtus in its earlier stage of development.

EMBRYONIC. Pertaining to or in the condition of an embryo.

ENCEINTE. Pregnant.

ENDOMETRITIS. Inflammation of the mucous membrane lining the womb.

ENDOMETRIUM. The mucous membrane lining the uterus.

ENTOURAGE. Companions or followers collectively; also surroundings; environment.

EPIDIDYMIS. The oblong mass on the back of the testicle consisting of the convoluted efferent duct of that organ.

EPIDIDYMO-ORCHITIS. An inflammation of the epididymis and testicle.

EPITHELIAL. Relating to the epithelium.

EPITHELIUM. The cells which line the alimentary canal and passages connected therewith and that form the outer layer of the skin.

ERYTHEMATOPAPULAR. Consisting of red, inflamed, and raised bodies, as an eruption of the skin.

ETIOLOGY. The study or theory of the causation of disease.

EXTRAGENITAL. Elsewhere than in or upon the sexual organs.

FALLOPIAN TUBES. The ducts at either side of the uterus connecting its interior with the abdominal cavity near the ovaries. The oviducts.

FECUNDATION. Impregnation; fertilization.

FISSION. A division of a cell into parts. Segmentation.

FŒTUS. The child in the womb after the end of the third month.

FOLLICLE. A minute cavity, sac, or tube, as a hair follicle.

FOSSA NAVICULARIS. A natural dilatation of the urethra at the base of the glans penis.

FRÆNUM. A restraining band or fold, as the one connecting the foreskin to the glans penis on its posterior surface.

GALVANOCAUTERY. A metallic instrument for cauterizing, heated by electricity.

GENITAL. Pertaining to the animal reproductive organs or to the process of generation.

GESTATION. The act of carrying a fœtus in the uterus; pregnancy.

GLEET. A mucous discharge succeeding gonorrhœal inflammation.

GONOCOCCUS. The specific bacterial agent of gonorrhœa.

GONORRHOEA. A specific contagious inflammation of the urethra and vagina attended by a mucopurulent discharge.

GUMMATA. A tumor due to syphilitic infection.

HEMIPLEGIA. Paralysis of a lateral half of the body.

HEPATIC. Relating to the liver.

HEREDOCONTAGION. Infection of the fœtus with the germ of a contagion conveyed to it through the placental circulation.

HIPPOCRATIC OATH. An oath said to have been administered by Hippocrates to his disciples; hence the oath required of medical candidates on graduation.

HISTOLOGICAL. Relating to the minute structure and composition of tissues.

HYDRARGYRUM. The Latin name for mercury.

HYDROCEPHALUS. A fluid effusion within the skull. A disease marked by enlargement of the head.

HYPERÆSTHESIA. Excessive sensibility; abnormally acute sensibility.

HYPERTROPHIC. Pertaining to excessive growths.

HYPERTROPHY. Morbid enlargement or overgrowth of an organ or a part.

INFECTIOUS. Capable of being transmitted by micro-organisms.

INNOCUOUS. Having no harmful qualities. Producing no ill effects.

IRIS. A thin colored curtain stretched vertically across the anterior chamber of the eye.

LACUNÆ. Small lakes. Small spaces in which fluid may collect.

LESION. Any interruption of the normal continuity of the tissues, either from disease or by violence.

LEUCOCYTES. White blood corpuscles.

LEUCOPLASIC. Pertaining to a disease characterized by the appearance of white patches on the skin and mucous membrane.

LEUCORRHEA. Uterine catarrh. A mucous discharge from the vagina.

LOCHIA. A discharge of bloody serum from the womb after childbirth.

LOCOMOTOR ATAXIA. A disease of certain parts of the spinal marrow characterized by a peculiar gait.

MACROSCOPICAL. Visible without the aid of the microscope.

MALAISE. An uneasiness, distress, or discomfort.

MARITAL. Of or pertaining to marriage.

MEDULLARY. Pertaining to the marrow.

MENSTRUAL. Relating to the monthly flow.

MERCURIALIZATION. The condition of being under the influence of mercury.

METASTASIS. A translation or shifting of the manifestations of disease from one organ or part to another.

METRITIS. Inflammation of the womb.

MICROBE. Any individual micro-organism.

MICROCEPHALUS. A foetus or idiot with a very small head.

MORBID. Being in a diseased or abnormal state. Unhealthy.

MORPHOLOGY. The branch of biology that treats of the form and structure of animals and plants.

MUCOSA. The mucous membrane. The membrane lining cavities of the body which communicate either directly or otherwise with the exterior.

MUCOUS. Secreting mucus, or a slimy substance, as the mucous membrane.

NEURASTHENIC. Relating to or partaking of nervous exhaustion. One suffering from nervous debility.

NODOSITIES. Knots or protuberances.

OCCLUDED. Closed or shut up, as a tube or opening.

OLIGOSPERMIA. A paucity of semen.

OPHTHALMIA. Inflammation of the eye, its membranes, or its lids.

OPHTHALMIA NEONATORUM. Acute inflammation of the eyes of the newborn, usually due to gonorrhœal infection.

ORCHITIS. Inflammation of the testicle.

OSTEOPATHIES. Diseases of the bones.

OVARITIS. Inflammation of the ovary.

OVIDUCT. The Fallopian tube. The passage connecting the region of the ovary with the uterus.

OVUM. An egg. A nucleated cell formed in the ovary of the female, which, if impregnated, may produce a new individual.

PAPULE. A small elevation upon the skin. A pimple.

PARASYPHILIS. A condition indirectly connected with or resulting from syphilis.

PATHOGENIC. Disease-producing. Pertaining to or causing disease.

PATHOLOGICAL. Of or pertaining to disease.

PELVIC. Relating to the lower part of the trunk.

PELVIPERITONITIS. Inflammation of that portion of the peritoneal membrane covering the pelvic organs.

PEMPHIGUS. A skin disease characterized by the formation of watery blebs.

- PERIMETRITIS.** Inflammation of the peritoneal tissue connected with the womb.
- PERITONEUM.** A thin serous membrane which lines the abdominal cavity.
- PERITONITIS.** Inflammation of the peritoneum.
- PHAGEDENA.** An eating, sloughing ulcer. Rapid destruction of the soft parts by gangrenous ulceration.
- PHAGEDENISM.** A morbid condition leading to destruction of the soft parts by gangrenous ulceration.
- PHIMOSIS.** Abnormal narrowing of the opening in the foreskin sufficient to prevent exposure of the glans penis.
- PLACENTAL CIRCULATION.** Circulation of the blood in the placenta or temporary foetal organ which constitutes the greater part of the afterbirth.
- POLYLETHALITY.** The quality of great fatality. Superlative deadliness.
- PRIMIPARA.** A woman in labor with her first child.
- PRIMORDIAL.** First in order of time.
- PROCREATIVE.** Reproduction. Possessed of generative power.
- PROLIFERATION.** Rapid growth by the process of budding or by reproduction.
- PROPHYLACTIC.** Operating to ward off disease. Any medicine or measure protecting from disease.
- PROPHYLAXIS.** Preventive or preservative treatment against disease, especially against a certain disease in an individual.
- PROSTATE.** A gland situated at the neck of the male bladder.
- PROSTATITIS.** Inflammation of the prostate gland.
- PROTOPLASM.** The viscid contractile semiliquid substance which forms the principal part of an animal or vegetable cell.
- PUBERTY.** That period in life at which the procreative organs become functionally capable.
- PUERPERAL.** Pertaining to or resulting from childbed.
- PUPILLARY.** Pertaining to the pupil of the eye.
- PURULENT.** Consisting of pus. Accompanied by pus.
- PYELITIS.** Inflammation of the pelvis and calices of the kidney.
- PYOGENIC.** Pus producing. Tending to suppuration.
- RACHITIS.** The same as rickets. A disease of early childhood, chiefly due to deficient nutrition.
- RENAL.** Pertaining to the kidneys.

- SACRAL. Relating to the sacrum or the lower part of the spinal column.
- SALPINGITIS. Inflammation of the Fallopian tube.
- SALPINGO-OÖPHORITIS. Inflammation of the Fallopian tube and ovary.
- SCROTUM. The pouch which contains the testicles.
- SEMINAL VESICULITIS. Inflammation of the vesicles at the base of the bladder.
- SOUND. A metallic instrument used for exploring cavities of the body.
- SPERMATOCYSTITIS. Inflammation of the seminal vesicle.
- SPERMATOOA. The living elements in the semen, to which it owes its fecundating power.
- SPINAL. Pertaining to the spine or vertebral column.
- STAPHYLOCOCCUS. One of a form of micro-organisms that arrange themselves in irregular bunches.
- STENOSIS. Narrowing or stricture of a duct or canal.
- STIGMATA. Marks of infamy or tokens of disgrace attaching to a person as a result of evil-doing.
- STREPTOCOCCUS. One of a form of micro-organisms showing a disposition to arrange themselves in chains.
- STRICTURE. An abnormal narrowing of a canal.
- SUPPURATIVE. Producing pus.
- SYMBIOSIS. An association or living together of distinct organisms.
- SYMPHYSIS. The union or junction of two parts of the skeleton.
- SYPHILIDE. A skin eruption resulting from syphilis.
- SYPHILIS. A specific infectious disease communicated by direct contact with the virus, or due to heredity.
- TERTIARISM. That condition characteristic of the third stage of syphilis.
- TESTIS. The testicle.
- THORAX. The upper part of the trunk. The chest.
- TIBIA. The larger of the two bones of the leg which extend from the knee to the ankle. The shin bone.
- TOXIC. Poisonous. Possessing the harmful qualities of a poison.
- TUBERCULOSIS. An infectious disease caused by the tubercle bacillus discovered by Koch.
- TUBES. The oviducts or Fallopian tubes.
- TUMEFIED. Swollen; locally enlarged.

URETER. The tube or duct connecting the cavity of the kidney with the bladder.

URETHRA. The tube through which the bladder is emptied.

URETHRAL. Pertaining to the pipe or duct through which the bladder is emptied.

URETHRITIS. Inflammation of the urethra or urinary canal leading from the bladder.

UROGENITAL. Pertaining to the urinary and genital organs considered together.

UTEROVAGINAL. Relating to both the uterus and vagina.

UTERUS. The womb.

VAGINA. The female canal which extends from the uterus to the external orifice or vulva.

VAS DEFERENS. The convoluted tube leading from the testicle to the seminal vesicles at the base of the urinary bladder.

VASCULAR. Containing bloodvessels.

VASOMOTOR. Producing movements either of contraction or dilatation in the walls of the bloodvessels.

VENEREAL. Due to or propagated by sexual intercourse.

VESICULITIS. Inflammation of the seminal vesicles at the base of the bladder.

VIRUS. A morbid poison, more particularly a poison generated by or in the presence of germs.

VISCERAL. Pertaining to the viscera or internal organs.

VULVA. The external part of the female genital organs.

VULVOVAGINITIS. An inflammation of both the vulva and vagina.



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